JAN. 16 / JAN. 23, 2023

# TIME

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TIME

VOL. 201, NOS. 1–2 | 2023

*Workers take a water break while planting tree seedlings in Timburi, Brazil*

*Photograph by Victor Moriyama for TIME*

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*Illustration by Timothy Goodman for TIME*

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## Person of the Year

TIME marked the selection of Ukrainian President Volodymyr Zelensky as the 2022 Person of the Year with a reception on Dec. 8 at the Plaza Hotel in New York City. Zelensky was not able to attend in person, but he said in a video message that “it is an honor for me to represent the struggle of Ukrainians.” Icon of the Year Michelle Yeoh took the stage, and Mayor Eric Adams mingled. Find more on the biggest moments at **time.com/poy-2022**

*Clockwise from top: TIME editor-in-chief Edward Felsenthal interviews Yeoh, also at left; President Zelensky; New York City Mayor Adams, right, with TIME co-owner Marc Benioff and TIME CEO Jessica Sibley; TIME’s 2022 Breakout Artist of the Year Mickey Guyton; TIME correspondent Simon Shuster, left, and actor Liev Schreiber*

POUPAY JUTHARAT FOR TIME (5)

OUR 100th YEAR

On this issue’s cover, readers may notice something new—or, rather, old. We’re marking a century since TIME’s 1923 debut with a callback to the magazine’s original look. **Stay tuned for more celebration all year long.**

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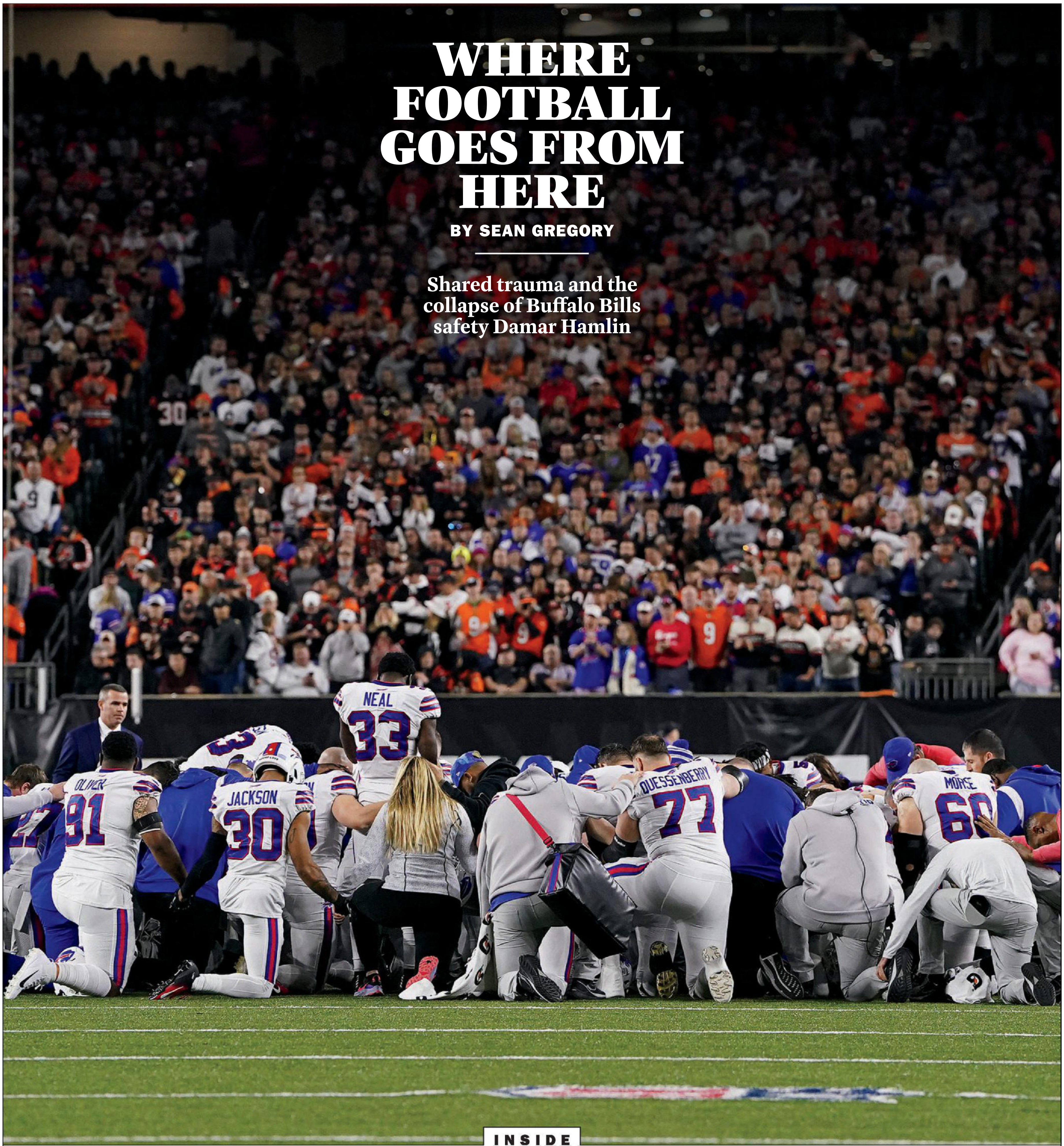
# The Brief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## WHERE FOOTBALL GOES FROM HERE

BY SEAN GREGORY

Shared trauma and the collapse of Buffalo Bills safety Damar Hamlin

**INSIDE**

POPE BENEDICT'S RADICAL LEGACY

RESOLVE TO SKIP THESE WELLNESS TRENDS IN 2023

A UVALDE MOTHER FIGHTS BACK ON CAPITOL HILL

PHOTOGRAPH BY DYLAN BUELL

THE NIGHTMARE SCENARIO FOR THE NFL HAD arrived. On the New Year holiday while the country was enjoying a half-century-old mass ritual known as Monday Night Football, America felt it in the pit of its stomach. It was as awful as you'd ever imagine. Worse, even.

Millions of people—including so many families, with kids taking in one last sports distraction before returning to school from winter break—were left watching Buffalo Bills safety Damar Hamlin fighting for his life near the 50-yard line on Jan. 2. As the ambulance carted Hamlin, 24, away in Cincinnati, we all braced for the absolute worst tragedy.

All that really matters, in this moment, is Hamlin's health. On Jan. 4, he remained in critical condition at the University of Cincinnati Medical Center after suffering cardiac arrest following what looked like a routine hit. "We are deeply moved by the prayers, kind words, and donations from fans around the country," Hamlin's family said in a statement. The GoFundMe that Hamlin had started back in 2020, to buy toys for children in his hometown near Pittsburgh, exceeded $6 million in donations by midday on Jan. 4; it had raised about $3,000 going into the Monday-night game.

America is football-crazed. So Hamlin's collapse will have to force a reckoning. As we pull so hard for Hamlin's recovery, it's also appropriate to ask ourselves: Can we in good conscience keep embracing this game?

> **'It was an eye opener for so many parents who have children who love football.'**
>
> **—HARRY CARSON,**
> NFL HALL OF FAMER,
> ON DAMAR HAMLIN'S COLLAPSE

**PEOPLE HAVE BEEN** wrestling with this question for more than a decade, as science has shed light on football's health consequences. Chronic traumatic encephalopathy (CTE) was once an obscure entry in medical textbooks. Now, the neurological disease associated with repeated blows to the head is well known by football fans, afflicting at least 300 former NFL players, and perhaps hundreds more. (The condition can only be definitively diagnosed postmortem). Hamlin did not suffer a head injury, but the incident showed that despite the NFL's measures to make the game "safer"—such as harsher penalties for head-to-head contact—football remains an inherently violent pursuit that puts players at great risk.

Football's brutality hasn't dampened its standing as the nation's most popular sport. The data couldn't be clearer. The Denver Broncos, for example, sold for $4.65 billion in 2022, the richest franchise transaction in U.S. sports history. Amazon is paying the NFL around $1 billion a year to show Thursday-night football games. And according to Variety, 31 of the 35 most-watched prime-time telecasts of 2022 were NFL games, Super Bowl LVI leading the way with some 99.7 million viewers.

Something about Hamlin's injury, however, feels different. Injuries to the head and extremities are terrible, and have resulted in paralysis for football players. But even in the worst cases, players can usually at least give fans an assuring thumbs-up as they leave the field. Hamlin was getting CPR. On Monday Night Football, millions felt his life hanging in the balance.

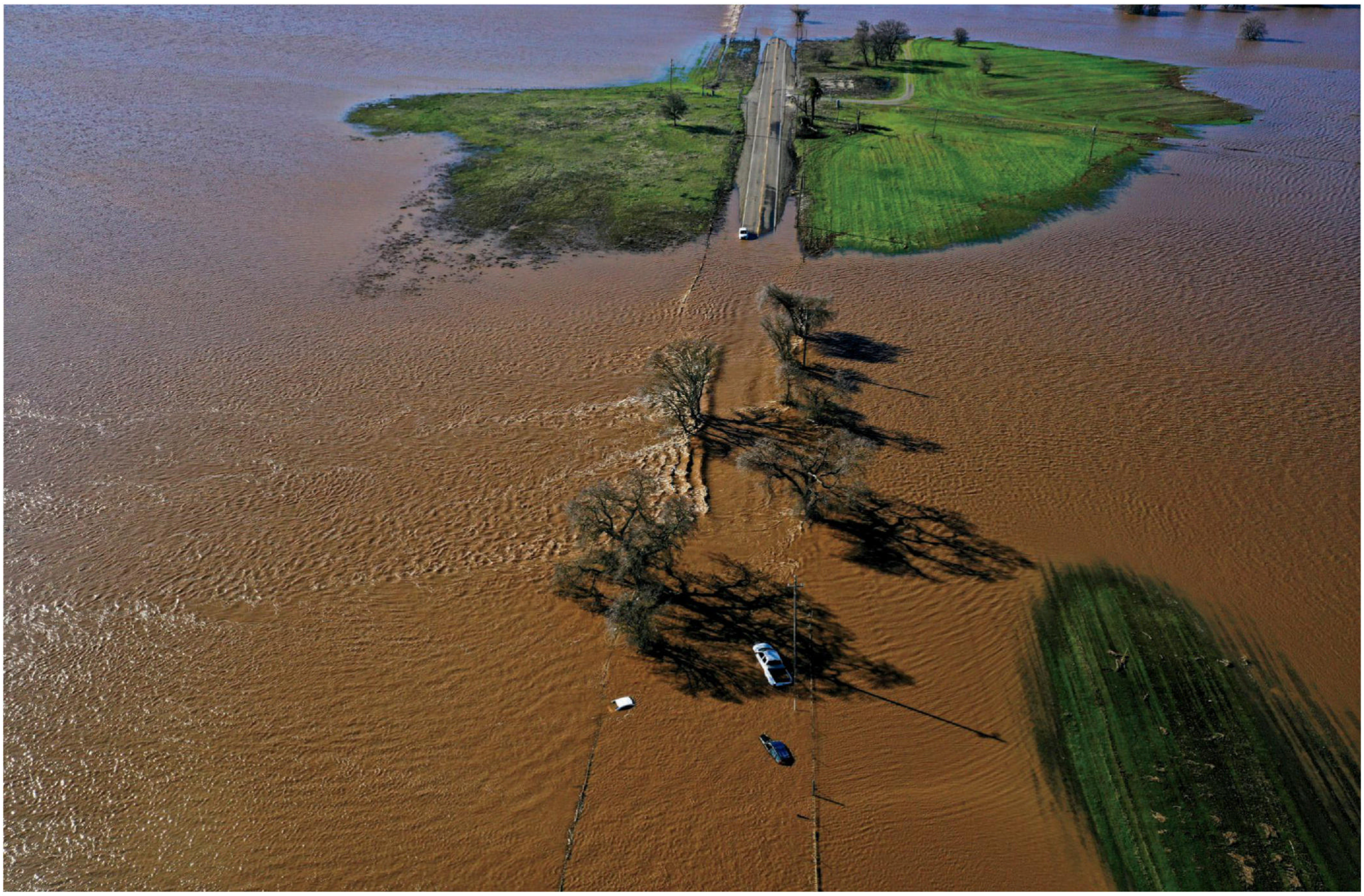
"You see players on the field and they get hurt, but you don't see players on the field going into cardiac arrest," says NFL Hall of Famer Harry Carson, a former linebacker for the New York Giants. "It was basically an eye opener for so many parents who have children who love football. Parents might be a little bit more hesitant wanting their child to play if that's going to happen. It's unreal." Carson, who sustained numerous concussions in his career, says he's remained a "tyrant" in his family, insisting ever since his grandson was 2 years old that he never play football. Carson's grandson is now 13. He hasn't played, despite his family pedigree. And after seeing what happened to Hamlin, Carson sent his daughter a text message: This is why he shouldn't play, he told her.

The NFL's problematic handling of player safety was on display as well. The league faced a torrent of social media criticism after appearing to delay the postponement of the game. ESPN announcer Joe Buck said that teams were initially given a five-minute window to warm up and resume the contest after the ambulance carried Hamlin off the field and his Bills teammates knelt in prayer. "That's the word we get from the league and the word we get from down on the field," Buck said. The two head coaches, Sean McDermott of the Bills and Zac Taylor of the Cincinnati Bengals, spoke to a referee. The players retreated to their locker rooms, and more than an hour after Hamlin collapsed, the game was officially postponed.

"It never crossed our mind to talk about warming up to resume play," the NFL's executive vice president of football operations, Troy Vincent, said in a conference call with reporters. (ESPN stood by Buck's reporting.)

The point, however, was that the NFL could have stopped all the shouting by calling the game immediately. Everyone watching, much less playing, knew that continuing with Hamlin's condition unknown—and players grieving their teammate—would prove impossible. Why deliberate at all?

*The Brief is reported by Leslie Dickstein, Sanya Mansoor, Olivia B. Waxman, and Julia Zorthian*



## Sea lanes

Three vehicles lie submerged on a road in Wilton, Calif., outside Sacramento on Jan. 1 following heavy rains on New Year's Eve that breached levees in three different places along the Cosumnes River. Numerous roadways in southern Sacramento County flooded as a result, including nearby Highway 99, leaving at least one person dead.

THE BULLETIN

# The elections that will shape global politics in 2023

THE YEAR 2022 SAW RIGHT-WING leaders win elections around the world. In Sweden, a party with neo-Nazi roots became part of the governing alliance. Giorgia Meloni now leads Italy's most right-wing government since Mussolini. In South America, however, leftists took the lead with the victories of Luiz Inácio Lula da Silva in Brazil and Gustavo Petro in Colombia. This year, contests in Nigeria and Pakistan will help shape world affairs, while polls in Turkey and Bangladesh will test the grip of authoritarian leaders.

**SAFETY FIRST** A Feb. 25 vote in Nigeria will likely focus on security issues. "Across most of the major metropolitan areas, there are regular kidnappings," says Darren Kew, associate professor at the University of Massachusetts Boston. Center-left President Muhammadu Buhari is barred from running because of term limits.

**BREWING ANGER** Last April, Pakistan's Prime Minister Imran Khan *(below)* was ousted from power in a no-confidence vote. The current leader, Shehbaz Sharif, has faced criticism over his handling of an economic crisis, historic floods, and an upsurge in terrorist attacks. Khan, who was the target of an assassination attempt in November, "has been gaining a lot of popularity," says Michael Kugelman, deputy director of the Asia program at the Woodrow Wilson Center. A vote is due by Oct. 12.

**ENTRENCHED** In Turkey, President Recep Tayyip Erdogan's 20-year rule could be put to its toughest test yet in June thanks to anger over an economic crisis that has seen inflation top 80%. Still, it's unclear that even a coalition of opposition leaders can challenge him successfully, says H.A. Hellyer, at the Carnegie Endowment for International Peace. Similarly in Bangladesh, observers are skeptical that election reforms will dent the government's ironclad grip.

—SANYA MANSOOR

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GOOD QUESTION

# Will the U.S. see even bigger strikes this year?

**BY ALANA SEMUELS**

A FEW YEARS AGO, IT MIGHT HAVE BEEN DAUNTING to try to start a union at an arts organization during times of economic uncertainty. But that's exactly what Jorie Moss, 34, and a group of professional singers did in early December when they asked the Philadelphia Orchestra Association to recognize them as a union so they could negotiate a contract. A recession may be coming, says Moss, but the pandemic changed what workers are willing to tolerate.

"The time that we all had to sit in our rooms and think about what we've done—I'm talking about the pandemic—gave us a chance to reflect on the fact that these are conditions that we don't have to stand for, we should be treated better, and we deserve to ask for it," she says.

It's been more than a year and a half since waves of labor unrest started sweeping through the country. Thousands of workers have walked off the job for better conditions, and long-shot campaigns—like organizing workers at Starbucks coffee shops—have snowballed, leading to a surge of union elections. Though the strong labor market that emboldened workers is softening, these conflicts will continue in 2023, says Thomas Kochan, a professor of employment research at the MIT Sloan School of Management. "I expect what we'll see is more conflict, more strikes, and more contract rejections," Kochan says. Workers are still focused on companies' profits during boom years, he notes, while companies are starting to trim costs to prepare for an economic downturn. "It's that difference in expectations," he says, "that creates a higher probability of conflicts and strikes."

Indeed, workers have staged some of the highest-profile walkouts as the economic news has become more grim. Corporate giants including PepsiCo, Amazon, and Goldman Sachs announced layoffs, but workers at both the New York *Times* and Starbucks walked off the job in mid-December. Though companies are jettisoning workers, the job market is still extremely strong, which may be giving workers more confidence. There were 10.3 million jobs open in October, government data show; more than double the average of 4.6 million that month from 2000 to 2020. Around 58% of Americans said they thought they'd be able to find a new job if they lost their current one, the highest rate since February 2020, according to the New York Fed's Survey of Consumer Expectations, released Dec. 12.

*Union activists protest in support of railroad workers demanding sick pay*

REPEAL THE RAILWAY LABOR ACT!
GRAND CENTRAL TERMINAL
REPEAL THE RAILWAY LABOR ACT!
People before profits! Workers need sick days!

**'I expect what we'll see is more conflict, more strikes, and more contract rejections.'**

—THOMAS KOCHAN, MIT PROFESSOR

What's different now from past downturns is the changing demographics that are leaving employers short-staffed. Baby boomers who stayed in the workforce until the pandemic have left en masse in recent years, while the immigration rate slowed in 2020 and has not recovered. From 2026 to 2036, the U.S. will see its workforce shrink by 3.2%, which means "workers will have more power to demand changes," says a recent report on workplace trends by economists from Indeed and Glassdoor.

**MEANWHILE, THE CHANGES** that many workers want seem to revolve around more than just wages. Moss, the choir member, says that she and other workers have no predictability for when they'll be asked to work and how much they'll earn from one season to another. Lack of control over their schedule—specifically the inability to take sick days when they needed them—was also what motivated four freight-rail unions in November to vote down a contract brokered with their employers.

Many of these issues will come to a head in 2023 as big union contracts expire. The United Auto Workers will be seeking a new contract with the Big Three—General Motors, Ford, and Stellantis, the group that now runs Chrysler. The Writers Guild, which represents many working TV and film writers, has a contract that expires in May.

And the largest private-sector collective-bargaining contract in the country, between the Teamsters and UPS, expires on July 31. In November 2021, the Teamsters elected a new leader, Sean O'Brien, who beat out a successor handpicked by James P. Hoffa, who had run the union for 24 years. O'Brien, who took office in March, has a mandate to secure improved conditions for his 340,000 drivers. He has said repeatedly that if workers don't get a better contract, he'll lead them on a strike.

WORKERS: FATIH AKTAS—ANADOLU AGENCY/GETTY IMAGES; PELÉ: SCHIRNER—ULLSTEIN BILD/GETTY IMAGES; POPE: ALESSANDRA BENEDETTI—CORBIS/GETTY IMAGES; WALTERS: LUISA DÖRR FOR TIME

**ARRESTED**

A criminology doctoral student, in **the November killings of four University of Idaho students,** on Dec. 30 at his parents' house in eastern Pennsylvania.

**CRITICIZED**

Ultra-nationalist Israeli Cabinet Minister **Itamar Ben-Gvir for visiting the al-Aqsa mosque compound** on Jan. 3, a move Palestinians viewed as "deliberate provocation."

**SUED**

Paramount Pictures, for more than $500 million on Dec. 30, by the stars of 1968's ***Romeo and Juliet,*** who allege they were sexually exploited as teenagers during filming.

**DELIVERED**

An **in-person New Year's address by the Japanese emperor,** on Jan. 2, the first in three years since COVID-19 restrictions began.

**DIED**

▸ **Vivienne Westwood,** the renowned British fashion designer, on Dec. 29, at 81.

▸ Rapper **Gangsta Boo,** a former member of hip-hop group Three 6 Mafia, on Jan. 1, at 43.

▸ Brazilian soccer legend **Pelé** *(below),* on Dec. 29, at 82.

**DIED**

# Benedict XVI

## *The Pope who stepped down*

**BY DAVID VAN BIEMA**

VERY FEW THINGS BENEDICT XVI DID WHILE POPE ASTOUNDED people. Long ago, as a Cardinal, Benedict—who died Dec. 31 at 95—so powerfully shaped the conservative pontificate of his friend and predecessor, John Paul II, that his own installation represented continuity. But his 2013 resignation was truly shocking, and it remains his most powerful idea in his years as pontifex.

The renunciation, unprecedented in modern times, immediately sparked debate: Was this the way the church worked? That discussion became less theoretical when Benedict's successor Francis turned out far more stylistically (if not precisely doctrinally) liberal than expected. Eventually—with Benedict insisting on calling himself "emeritus Pope" and still wearing the traditional white cassock—the retirement generated a kind of bizarro two-Pope situation. Or at least it seemed so to some conservatives, who treated the frail Bavarian in his monastery as a kind of mascot for the idea of a divided church. Francis, meanwhile, was at pains to deny any kind of tension between the two actual men.

With Benedict's passing, Roman Catholicism is again unambiguously single-Pontiff—for now. Francis, 86, has considered eventual retirement, citing Benedict's precedent. Whatever the rest of his legacy, that last act is one in which Benedict's name will live on.

---

*Van Biema is TIME's former religion writer and co-author of* The Prayer Wheel

**DIED**

# Barbara Walters

## *Icon of journalism*

There should be no confusion surrounding the greatest accomplishments of Barbara Walters, who died on Dec. 30 at 93. Walters busted barriers for women, joining NBC's *Today* show in 1964 and building a reputation that led ABC to hire her away, in 1976, as the first woman to co-anchor a national network's evening news program. Over more than half a century, she coaxed revelatory insights out of the world's heroes, villains, and stars.

But in 1997, she made another crucial contribution sure to outlive her: she created *The View.* Despite its chaotic low points, the show introduced a more ambitious paradigm for talk shows aimed at a female audience—women who gossiped *and* voted, read *People and* the newspaper. In the world of *The View,* women are never a monolith. The show didn't mark the apex of Walters' career, but its insistence on taking women seriously changed daytime TV as profoundly as her ascendance in the anchor's seat changed the face of broadcast news.

—*Judy Berman*

# 5 wellness trends to ditch in 2023

BY ANGELA HAUPT

IN 2022, SOCIAL MEDIA INSPIRED MANY OF THE WAYS WE TRIED TO GET AND STAY healthy—but not always for the better. Talk about weight-loss drugs spread like wildfire online, as did our collective agreement to stop going the extra mile at work. We turned to Dr. TikTok again and again, and focused perhaps too much on body image—even when we tried to keep things positive. The new year is the perfect time to re-evaluate these habits, experts say. Here are five wellness trends you'd be better off ditching in 2023—plus healthier alternatives.

## 1. Weight-loss shots

Ozempic and Wegovy, two injections that are used to treat Type 2 diabetes and obesity, are hot commodities—even among people without those conditions. "There are people on Reddit and TikTok and other platforms hearing about it," says Dr. Andrew Kraftson, a clinical associate professor in metabolism, endocrinology, and diabetes at Michigan Medicine. But "they're not meant to be used willy-nilly." These drugs turn down appetite, leading to weight loss, but people who stop using them typically gain it back. Side effects can include pancreatitis, changes in vision, low blood sugar, and kidney and gallbladder problems. A better long-term plan is to emphasize fruits, vegetables, lean protein, and whole grains, says Dr. Stephen Kopecky, a cardiologist at the Mayo Clinic. "It needs to be sustainable," he says.

## 2. Quiet quitting

Doing the bare minimum at work, rather than going above and beyond, is a risky 2022 trend, says Susan Albers, a clinical psychologist at the Cleveland Clinic. While setting work-life boundaries is a good idea, quiet quitting "normalizes staying stuck in a job that doesn't feel satisfying or suit you." That elevates the likelihood of burnout, stress, and anxiety. Instead, think about what kind of job might be more energizing: "Really take the time to look into yourself and your skills, your talents, your passion, and think about whether there's a better match."

## 3. Diagnosing yourself on TikTok

TikTok users are bombarded with mental-health content, leading many to diagnose themselves with whatever condition resonates the most. "We see a lot of misinformation being spread," says Kate Kowalczik, a therapist who practices in New York and California. "Combine that with difficulty accessing mental-health care in the U.S., and it's a recipe for self-diagnosis." Kowalczik challenges TikTokers to double- check mental-health information with a credible source, and discuss their symptoms with a doctor or other mental-health provider who can put them into context and help figure out a proper diagnosis.

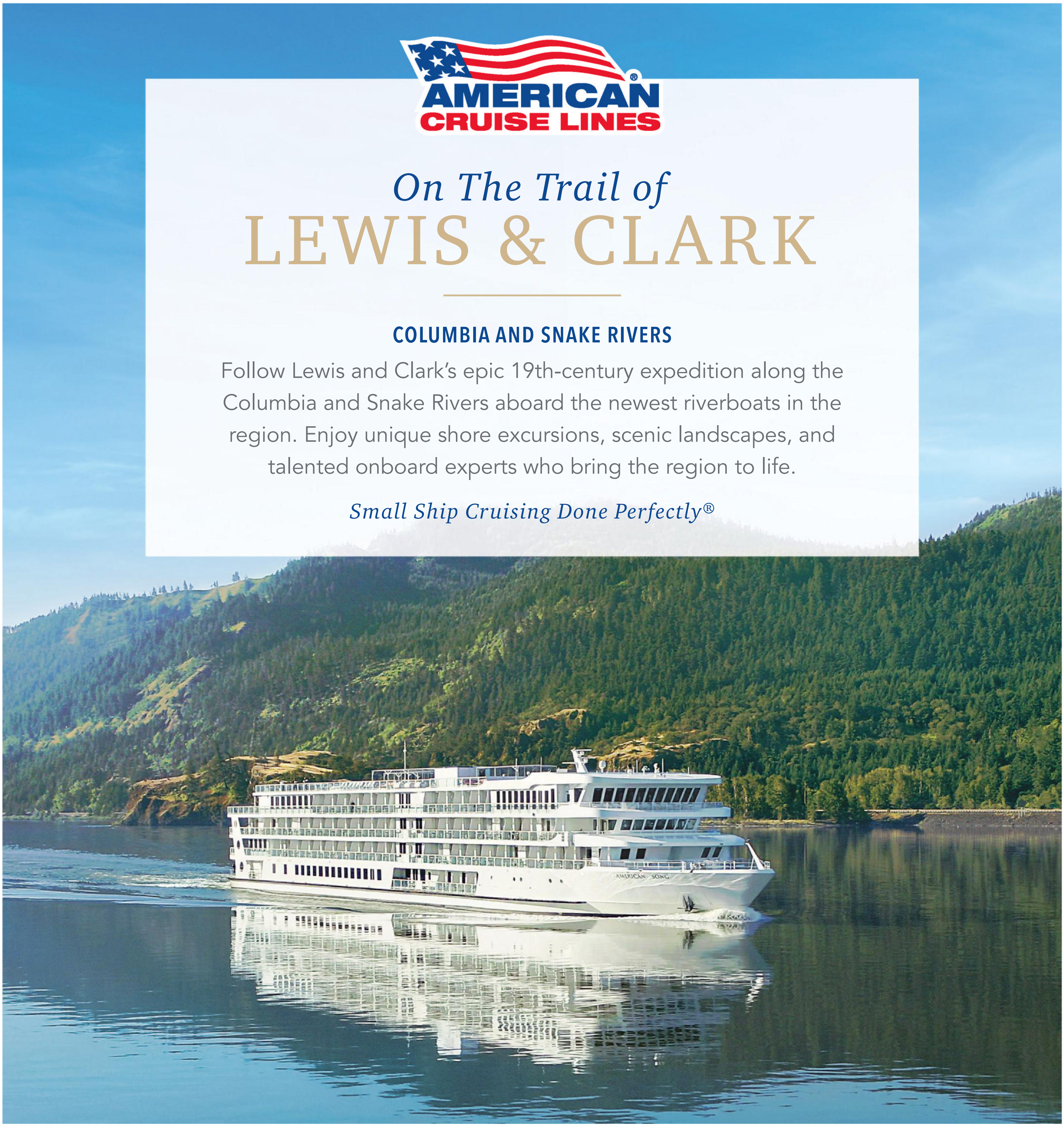
## 4. Overdoing melatonin

Americans are getting less sleep than they did before the pandemic, and melatonin use has steadily increased. That's worrisome for a variety of reasons, including a lack of data on the long-term safety of regular use and the fact that the over-the-counter sleep supplement is not regulated as strictly as a medication by the U.S. Food and Drug Administration. It's time for a shift in how we think about melatonin. "A pill doesn't replace a lifestyle," Kopecky says. Reserve melatonin for special occasions, like if you've traveled to a different time zone and need help adjusting to a new schedule, he says. And make it a practice to stick to a consistent bedtime, dim your lights (because bright lights can interfere with your body's natural production of melatonin), and go device-free an hour before you want to fall asleep.

## 5. Body talk

The body-positivity movement aims to accept, appreciate, and celebrate all bodies, regardless of size or shape. But "at its core, body positivity still reinforces the notion that there's value in the way a person's body looks," says Saba Harouni Lurie, a therapist in Los Angeles. In 2023, aim to practice body neutrality. That means accepting our bodies as vessels that allow us to go for a run or walk to the mailbox, instead of attaching positive or negative feelings to them. Unfollow social media accounts that promote unhealthy body-image ideals, Albers suggests, and switch up your self-talk. "Instead of saying things like 'I love my body,' shift to 'I accept my body as it is. I appreciate what it does for me,'" she says.

ILLUSTRATIONS BY BROWN BIRD DESIGN FOR TIME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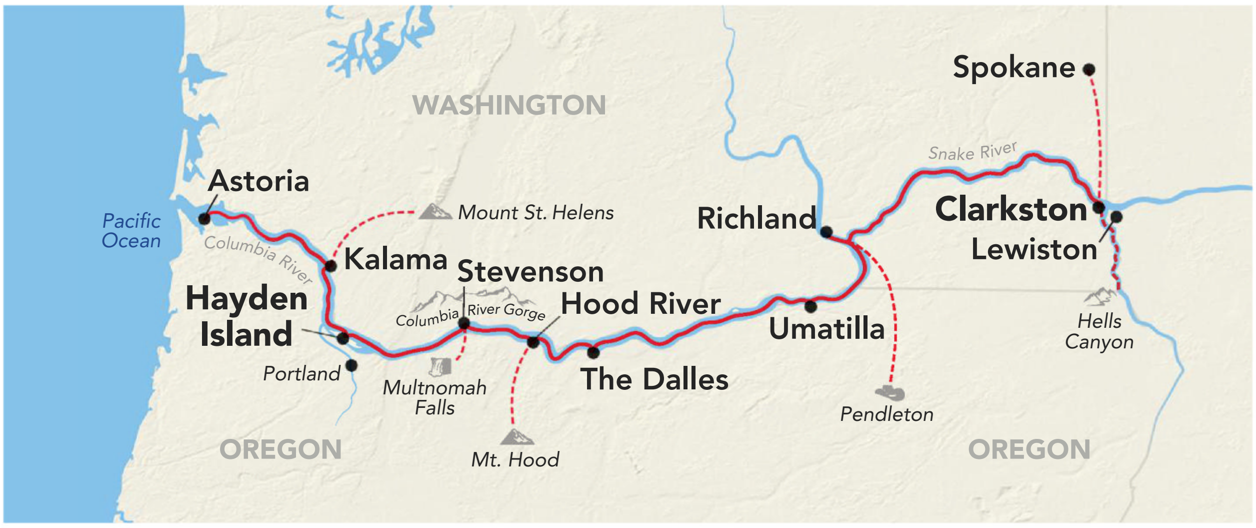
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Cruise Guide

WORLD

## COVID-19 curbs for Chinese travelers

**BY YASMEEN SERHAN**

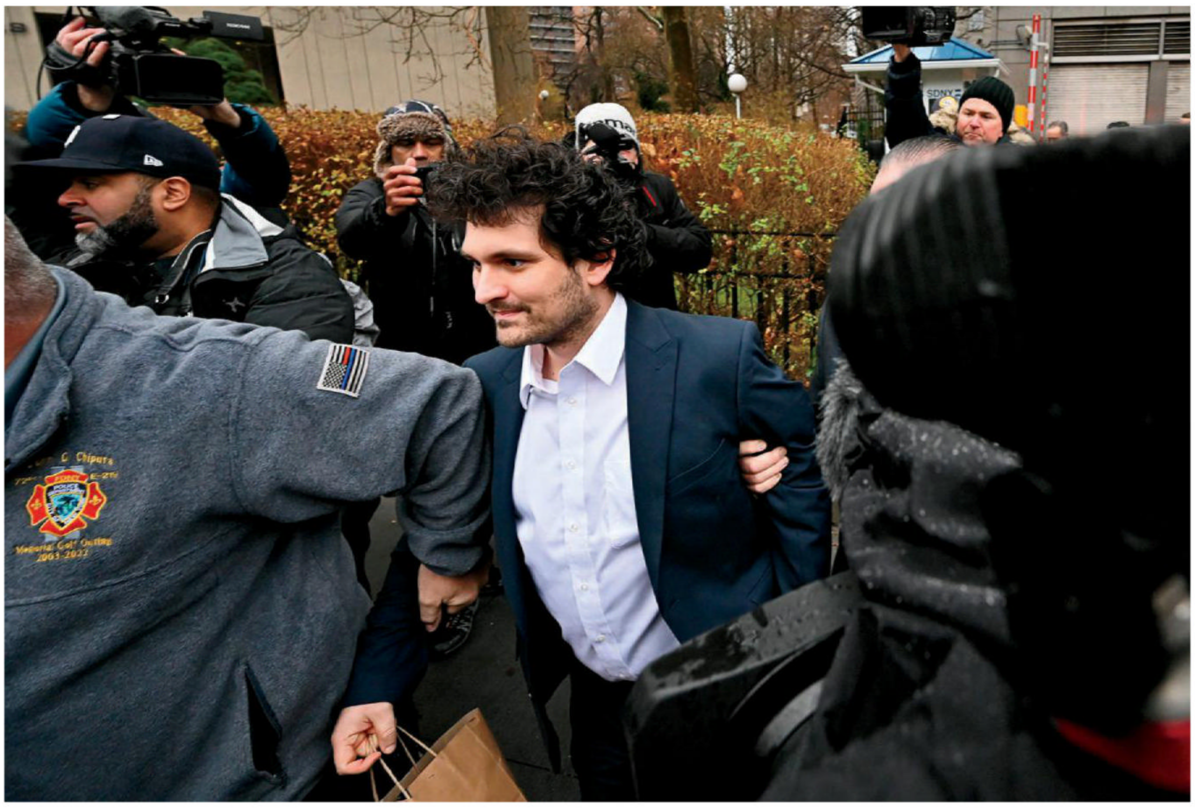
For nearly three years, China's zero-COVID policies kept most Chinese tourists close to home. But now that the government has dropped nearly all pandemic restrictions, Chinese citizens wishing to go abroad are finding it harder to enter other countries. Amid rapidly rising infections and concerns over the reliability of Beijing's reporting of cases, more than a dozen countries have announced new entry restrictions on travelers from China.

The U.S., Britain, Canada, France, Spain, Qatar, and others have reintroduced compulsory preflight COVID-19 tests for people flying in from China. Malaysia announced that it will screen inbound passengers for fever and test the wastewater of incoming aircraft from China in a bid to detect new variants.

Others are adopting more stringent measures. Japan, South Korea, and Italy are requiring all travelers from China to take a COVID-19 test on arrival. The strictest measure has been found in Morocco, where all people traveling from China have been banned from entering the country outright—irrespective of their nationality.

Beijing, which in a stunning reversal began dismantling its strict COVID-19 tracing, testing, and lockdown policies last month following rare public protest, has labeled the new requirements "discriminatory" and vowed to take "countermeasures."

Still, public-health experts have cast doubt on the effectiveness of these measures in keeping potential new variants at bay. "Trying to ban a virus by adjusting what we do with travel has already been shown not to work very well," Andrew Pollard, the director of the Oxford Vaccine Group, told the BBC.



*Bankman-Fried was released on $250 million bail on Dec. 22*

TECH

## What happened to FTX's lost $8B?

**BY ANDREW R. CHOW**

THE COLLAPSE OF THE CRYPTO exchange FTX seemed to materialize out of nowhere. In the space of one week in November, FTX went from one of the most trusted parts of crypto to a bankrupt disgrace that lost more than $8 billion of its customers' money, according to authorities.

FTX's founder Sam Bankman-Fried faces criminal charges, including fraud and money laundering. He is free on $250 million bail and entered an initial plea of not guilty on Jan. 3 in federal court in New York City.

While much of the press coverage has focused on Bankman-Fried allegedly spending customer money on political donations and a Bahamian real estate empire, it appears that a far greater amount of FTX money disappeared in the wake of an earlier and lesser-known crypto crash. Increasing evidence suggests that the May collapse of the highly controversial cryptocurrency TerraUSD (which some critics likened to a Ponzi scheme) may have started a chain-reaction financial crisis that brought down first Bankman-Fried's hedge fund Alameda Research, which made many risky bets on cryptocurrencies, and finally FTX.

A recent report by the analytics firm Nansen—which followed transactions that are publicly visible on the blockchain—shows that after TerraUSD collapsed, hundreds of millions of dollars in crypto were transferred from FTX to major crypto lenders that Alameda may have owed money to. The links between TerraUSD and FTX could help explain how FTX's losses mounted so quickly, and why it will be exceedingly difficult for customers to get their money back.

FTX, founded in 2019, allowed consumer investors to buy cryptocurrency and took deposits, similar to the way traditional financial institutions work. Alameda and FTX were supposed to operate separately from one another, but Nansen found a slew of blockchain evidence suggesting that the companies were likely entwined. The Commodity Futures Trading Commission (CFTC) alleged the same thing in a December complaint: that Alameda used FTX's funds as an unlimited line of credit to trade with.

Bankman-Fried claims that the commingling of funds between Alameda and FTX was not purposeful, but resulted from his and others' misreading of "confusing internal labeling," he told Reuters.

> **'At the end of the day, we are not going to be able to recover all the losses here.'**
>
> **—FTX CEO JOHN RAY III**

Bankman-Fried largely concealed Alameda's financial records, regulators allege, and its interplay with FTX seemed largely unremarkable until May 2022, when TerraUSD collapsed following a bank run. TerraUSD was a "stablecoin" that was advertised as holding a value pegged to the U.S. dollar—unlike traditional cryptocurrencies, which rise and fall in value on the open market.

Because TerraUSD had grown so fast in early 2022, its fall caused a domino effect that wiped out over $400 billion in value from the crypto ecosystem. Major industry players including Three Arrows Capital—which invested hundreds of millions of dollars in the TerraUSD ecosystem—and Voyager Digital filed for bankruptcy in the following months.

The ensuing chaos forced many crypto lenders to call back their loans. And Alameda was one of the companies forced to pay up, the CFTC says. The agency alleges that Alameda did not have the cash on hand to service its debts—and that in May or early June, at Bankman-Fried's direction, Alameda directly used several additional billion dollars' worth of FTX user funds to pay the debts. Afterward, FTX's internal books showed that Alameda owed $8 billion to FTX, the CFTC alleges.

Blockchain evidence collected by Nansen shows that after the TerraUSD crash, FTX transferred hundreds of millions of dollars' worth of cryptocurrency first to Alameda and then to the trading firm Genesis, which had served as a major lender to many crypto companies. Nansen says this suggests that FTX user funds might have been deployed to pay off a massive debt to Genesis. A representative for FTX did not respond to a request for comment.

FTX is under new management, and federal agencies are now working to recover FTX funds that might be returned to customers. But new CEO John Ray III warned last month that it will be difficult to claw back money that went to crypto lenders. "At the end of the day, we are not going to be able to recover all the losses here," he said.

FTX: ED JONES—AFP/GETTY IMAGES; ABORTION: COURTESY MAYDAY HEALTH

NATION

## The company fighting the abortion-information war

**BY CHARLOTTE ALTER**

Dr. Jennifer Lincoln has amassed nearly 3 million followers on TikTok through her frank videos about sex, abortion, and reproductive care. Now the Oregon-based ob-gyn is taking on a new role as executive director of Mayday Health, a health-education nonprofit designed to help patients in states that have banned abortion figure out how to get abortions anyway.

Lincoln and Mayday are on the front lines of the next battle over abortion rights: the information war. Mayday launched on the day the Supreme Court overturned *Roe v. Wade* with the goal of spreading the word about abortion pills—two medications prescribed by a doctor that, when taken within 48 hours of one another during the first trimester, can safely terminate a pregnancy. For patients living in states where abortion is banned, Mayday lays out the step-by-step process for obtaining the pills through the mail and provides medical information about safety and reliability. "The most valuable message anybody can spread is telling the folks who live in those states how they can still make decisions about their own bodies," says Sam Koppelman, a co-founder of Mayday.

A wave of new restrictions have curtailed sources of reliable information about reproductive health. Doctors across the country are caught in legal limbo about how to advise patients. In some states where abortion is banned, even school administrators and library workers are discouraged from talking about abortion.

More than 50% of abortions in the U.S. in 2020 were medication abortions, and requests for abortion pills have surged since *Roe* was overturned. Yet many patients don't know that the pills are safe, or how to get them. Mayday is focused on delivering that message. After the last abortion clinic in Mississippi closed, Mayday put up signs in Jackson saying "Pregnant? You Still Have a Choice" with a link to its website. When the University of Idaho blocked staff from counseling students about abortion, Mayday drove a digital billboard through campus that read: "They don't want you to know this: You can still get abortion pills by mail."

The 501(c)(3) organization has partnered with social media influencers and spent thousands of dollars on Google ads targeting core demographics who might need abortions. It's particularly focused on low-to-middle-income women ages 18 to 44 who live in states that heavily restrict abortion.

Mayday doesn't manufacture or provide the abortion pills; it simply provides information about how patients can get them. "We can tell people nothing, or we can use free speech to point people towards resources that do exist," says Lincoln, "and people can decide what they want to do for themselves."

They don't want you to know this:
You can still get abortion pills by mail
Visit MAYDAY.HEALTH to learn more

*Mayday billboards direct patients toward information about abortion*

# A Uvalde mother turns rage and grief into action

BY JASMINE AGUILERA

ON A DRIZZLY DECEMBER EVENING IN WASHINGTON, D.C., Kimberly Mata-Rubio marched from Union Station to Capitol Hill with dozens of other families from Uvalde, Texas. Her 10-year-old daughter Lexi Rubio was murdered in the shooting at Robb Elementary School on May 24. Mata-Rubio had never been on a plane before the shooting, but this was now her seventh trip to Washington in as many months to pressure lawmakers to pass restrictions on assault weapons. When the march ended, Mata-Rubio, 33, was weeping.

This is not the vocation that Mata-Rubio envisioned for herself, but it is now her future. While she's taking on the legislative battles, she is also navigating her complicated and painful grief. She is mourning the loss of her daughter—but also the loss of the life she and her family had before the shooting. "Who I was before ceased to exist the moment Lexi died," Mata-Rubio says, sitting on a bench outside the U.S. Capitol on Dec. 8 in between meetings with lawmakers. "This new me, it's difficult figuring it out." As mass shootings in the U.S. become increasingly common—there have been more than 400 in the U.S. since May 24, according to the Gun Violence Archive—she says it should be clear that her anguish could become any other parent's as well. "I would receive comments, something along the lines of 'I can't imagine what you're going through,'" she says. "And I'm like, well, no. As a mom or a dad, you can imagine . . . Only when you imagine my pain will you join me in fighting."

**CHRISTMAS EVE MARKED** seven months since Lexi and 18 other children and two teachers were killed by a gunman. Normally, Lexi would help her father Felix Rubio decorate the outside of their home for the holidays. They'd drink hot chocolate with marshmallows and watch Christmas movies together. This year, the family decorated Lexi's grave site with Christmas lights and giant candy canes.

For decades, no mass shooting produced meaningful changes to gun law on Capitol Hill. Dec. 14 was the 10th anniversary of a gunman killing 20 children and six adults at Sandy Hook Elementary School in Newtown, Conn., an event that many thought would lead to federal changes to gun policy, which never panned out. Uvalde was different: President Joe Biden in June signed into law the most significant gun-reform bill in nearly three decades, which enhances background checks for young gun buyers and funds mental-health programs. Still, that law might not have prevented the Uvalde shooter from acquiring his weapon.

Mata-Rubio says it isn't enough. Like many parents of mass-shooting victims, she is learning not only that the pain of losing a child doesn't end, but also that those in power are often slow—or even entirely unwilling—to change U.S. gun laws. Mata-Rubio has become a public figure, testifying before Congress, speaking directly with lawmakers, participating in rallies in Austin, and sharing her heartbreak with her nearly 19,000 followers on Twitter. During her December trip to D.C., she urged the Senate to pass a bill that would reinstate a ban on certain assault weapons like the one used in the Uvalde shooting and others. (The House passed the bill in July.) But Senate leadership did not bring the bill to a vote before Republicans took control of the House on Jan. 3—all

Merry Christmas!
Holy Night
Welcome
Lexi Rubio

*Lexi's parents, top and bottom left, honor her with tattoos, clothing, photos, and decorating her grave site*

Alexandria A. Rubio
ALEXANDRIA RUBIO

CHRISTOPHER LEE FOR TIME

but sinking any possibility of that legislation's passing. "It's been a rough two weeks," Mata-Rubio tells TIME in an interview a few days after the march in D.C. She committed to the Washington trip before Thanksgiving, but since the holiday, her mourning took a new form. "Those traditions that we usually do, we're not doing, and [Lexi's] not here ... Had I been in the headspace I'm in right now, I probably wouldn't have [decided to come]."

> **'Only when you imagine my pain will you join me in fighting.'**
>
> —KIMBERLY MATA-RUBIO

**LESS THAN ONE WEEK** after her D.C. trip, Mata-Rubio walked across the stage in a cap and gown at the St. Mary's University commencement ceremony to receive her bachelor's degree in history. She was wearing a necklace with the letter *A*. Lexi's full name was Alexandria Aniyah Rubio. Her family cheered for her from the audience, and an extra-large photo of Lexi filled one of the seats. Mata-Rubio and her husband had wanted to move Lexi and her five siblings out of Texas. Mata-Rubio used to work as a reporter at the Uvalde *Leader-News,* a local twice-weekly newspaper. But in 2019, she decided to quit and get her bachelor's degree, which she hoped would help get her a job at the FBI, or open up other opportunities in journalism outside of Texas. "I almost would have taken anything," she says. "Whatever, just to get my kids out of Uvalde, experience something different. It was important to me."

The family was thinking of moving to Washington State, or someplace cold—Lexi liked cold weather. They believed Mata-Rubio's college degree would be their ticket out. "That was what we were waiting for to leave," she says. "So I was almost right there. Just too late." Now, Mata-Rubio will never leave Uvalde. "Lexi is there," she says.

Mata-Rubio testified about gun violence just three days before Lexi was buried. "[Lexi] was firm, direct, voice unwavering," Mata-Rubio said in her testimony before the House Oversight Committee, her own voice shaking but forceful. "So today we stand for Lexi, and as her voice we demand action." Mata-Rubio has already seen more changes enacted since losing her daughter than many other parents of school-shooting victims. Her push for strengthened background checks became law in June. Now her focus has turned to passing an assault-weapons ban. Mata-Rubio won't comment on the ongoing investigation into the events that unfolded at Robb Elementary School, but says, "If 300-plus officers felt outgunned by one person with an assault weapon, then the average citizen shouldn't have access to that type of weapon."

Some of the opposition to the reforms Mata-Rubio wants is coming from her own elected representatives. On Dec. 8, Mata-Rubio and her husband met with a staffer for Senator John Cornyn, a Republican from Texas. According to Mata-Rubio, the staffer told her the office would not do anything to persuade Senate leadership to bring a bill banning assault weapons to a vote before the end of the year. (Cornyn's office confirmed the meeting to TIME but declined to comment on what was discussed.)

After her trip to Washington, Mata-Rubio returned to Uvalde to figure out what to do next and bear the pain of her first Christmas without Lexi. She wants to return to work at the *Leader-News,* but her first priority is her activism. With the new Congress there will be a renewed fight for gun-safety legislation, a new balance of power in Washington, and new lawmakers to confront with her grief. In the meantime, Mata-Rubio and her family visit Lexi's grave every day. "We're trying to get there earlier these days, though, because it gets darker sooner," Mata-Rubio says, "and it's hard to leave her in the dark." □

TIME

# Person of the Year

ON DECEMBER 8, TIME BROUGHT TOGETHER LEADERS WHO SHAPED THE YEAR 2022 FOR AN EVENING OF CELEBRATION.

SEE MORE TIME.COM/POY

LEFT TO RIGHT: BREAKTHROUGH ARTIST OF THE YEAR MICKEY GUYTON, ACTOR LIEV SCHREIBER AND TAYLOR NIELSEN, ICON OF THE YEAR MICHELLE YEOH, ARTIST JR AND ACTOR KAT GRAHAM, POET J. IVY

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# The View

WORLD

## TOP GLOBAL RISKS IN 2023

**BY IAN BREMMER**

Threats to the future of democracy look overrated these days, given the glaring leadership weaknesses now evident in Russia, China, and Iran. Add relief that the U.S. midterm election came off with few of the stresses we saw in 2020. But there are still important (and growing) risks to preoccupy world leaders, business decisionmakers, and the rest of us in 2023. Here are the most important. ▶

INSIDE

THE DEMOCRATS CAN'T REST EASY ON THEIR LAURELS

THE ONGOING BURDEN OF LONG COVID

LEARNING TO EMBRACE DISABILITY CULTURE

### MAXIMUM XI

Xi Jinping now has a command of China's political system unrivaled since Mao with (very) few limits on his ability to advance his statist and nationalist policy agenda. But with no dissenting voices to challenge his views, his ability to make big long-term mistakes is also unrivaled. That's a massive global challenge given China's outsize role in the world economy.

We see risks in three areas this year, all stemming from Maximum Xi. The ill effects of centralized decisionmaking on public health will continue with COVID-19's spread. Xi's drive for state control of China's economy will produce arbitrary decisions, policy volatility, and heightened uncertainty for a country already weakened by two years of extreme COVID-19 controls. Finally, Xi's nationalist views and assertive foreign policy will increasingly provoke resistance from the West and from China's Asian neighbors.

### WEAPONS OF MASS DISRUPTION

Recent advances represent a step change in the potential of artificial intelligence (AI) to manipulate people and disrupt society, and 2023 will be a tipping point for this trend. A new form, known as generative AI, will allow users to create realistic images, videos, and text with just a few sentences of guidance. Large language models will pass the Turing test—a Rubicon for machines' ability to imitate human intelligence. Advances in deepfakes, facial recognition, and voice-synthesis software will render control over one's likeness a relic of the past.

These tools will help autocrats undermine democracy abroad and stifle dissent at home, and enable demagogues and populists within democracies to weaponize AI for narrow political gain at the expense of democracy and civil society.

### INFLATION SHOCK WAVES

The global inflation shock that began in the U.S. in 2021 and took hold worldwide in 2022 will have powerful economic and political ripple effects in 2023. It will be the key driver of global recession, add to market volatility and financial stress, and produce disruptive effects on politics in every region of the world.

### IRAN

Nationwide antigovernment protests continue. At the same time, Tehran has escalated its nuclear program in dramatic ways, all but ending any chance of reviving the nuclear deal. And now Iran is supplying Vladimir Putin's military with deadly weapons. This year will feature new confrontations between the West and the Islamic Republic, as it faces convulsions at home and lashes out abroad.

## Rogue Russia

A CORNERED RUSSIA WILL TURN FROM GLOBAL PLAYER INTO THE WORLD'S most dangerous rogue state, posing a serious and pervasive danger to Europe, the U.S., and beyond. Bogged down in Ukraine, with little to lose from further isolation and Western retaliation, and facing intense domestic pressure to show strength, Russia will turn to asymmetric warfare against the West to inflict damage through a thousand "paper cuts" rather than by overt aggression that depends on military and economic power that Russia no longer has.

Putin's nuclear saber-rattling will escalate. Kremlin-affiliated hackers will ramp up increasingly sophisticated cyberattacks on Western firms, governments, and infrastructure. Russia will intensify its offensive against Western elections by systematically supporting and funding disinformation and extremism. Attacks on Ukrainian infrastructure will continue.

In short, Rogue Russia is a threat to global security, Western political systems, the cybersphere, and food security. Not to mention every Ukrainian civilian.

*Ukraine's Antonovskiy bridge, destroyed by Russian forces, on Nov. 16*

BRIDGE: FINBARR O'REILLY—THE NEW YORK TIMES/REDUX; PHONE: ROBIN UTRECHT—SHUTTERSTOCK

*The View is reported by Solcyre Burga and Mariah Espada*

**EXPENSIVE ENERGY**

A combination of geopolitics, economics, and production factors will create much tighter energy-market conditions, particularly in the second half of 2023, raising costs for households and businesses, increasing the fiscal burden on importing governments, and widening the rift between OPEC+ and major consumers.

**WATER STRESS**

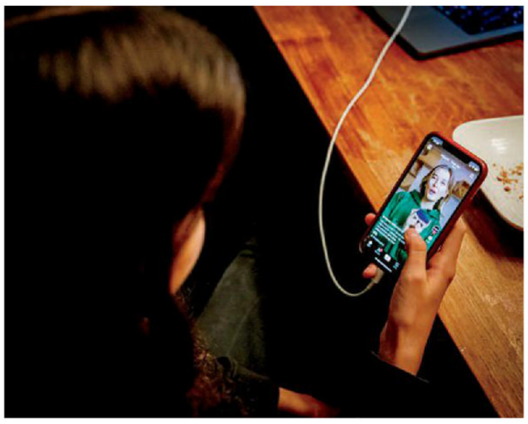
This year, water stress will become a global and systemic challenge, while governments will still treat it as a temporary crisis. Water stress requires a transition from water crisis to water risk management. That shift will not materialize in 2023, leaving investors, insurers, and private companies to figure out how to handle this challenge on their own.

## ARRESTED GLOBAL DEVELOPMENT

Over the past two generations, global GDP tripled, almost every country grew richer, and more than a billion people escaped extreme poverty to join the ranks of history's first global middle class. That progress has been thrown into reverse by mutually reinforcing shocks: the COVID-19 pandemic, the Russia-Ukraine war, and the global inflation surge. In 2023, billions of people will become more vulnerable as economic, security, and political gains are lost. The global middle class will shrink, and greater political instability, within and among countries, will follow.

## DIVIDED STATES OF AMERICA

The 2022 midterm elections halted the slide toward a constitutional crisis at the next U.S. presidential election as voters rejected virtually all candidates running for governor or state attorney general who denied or questioned the legitimacy of the 2020 presidential election. But the U.S. remains one of the most politically polarized and dysfunctional of the world's advanced industrial democracies heading into 2023. Extreme policy divergences between red and blue states will make it harder for U.S. and foreign companies to treat the U.S. as a single coherent market, despite obvious economic strengths. And the risk of political violence remains high.



## TikTok boom

BORN BETWEEN THE MID-1990S and the early 2010s, Generation Z is the first with no experience of life without the internet. Digital devices and social media have connected them across borders to create the first truly global generation. And that makes them a new political and geopolitical actor, especially in the U.S. and Europe. Gen Z has both the ability and the motivation to organize online to reshape corporate and public policy, making life harder for companies everywhere and disrupting politics with the click of a button.

**RED HERRINGS**

**Western support for Ukraine will not fade in 2023 as economic conditions worsen in the U.S. and Europe.**

**The E.U. will defy predictions of dysfunction this year to remain remarkably unified on priority challenges.**

**There will be no security crisis over Taiwan in 2023.**

**Domestic challenges in both countries will keep U.S.-China tech-war tensions in check.**

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## Health Matters

## By Jamie Ducharme

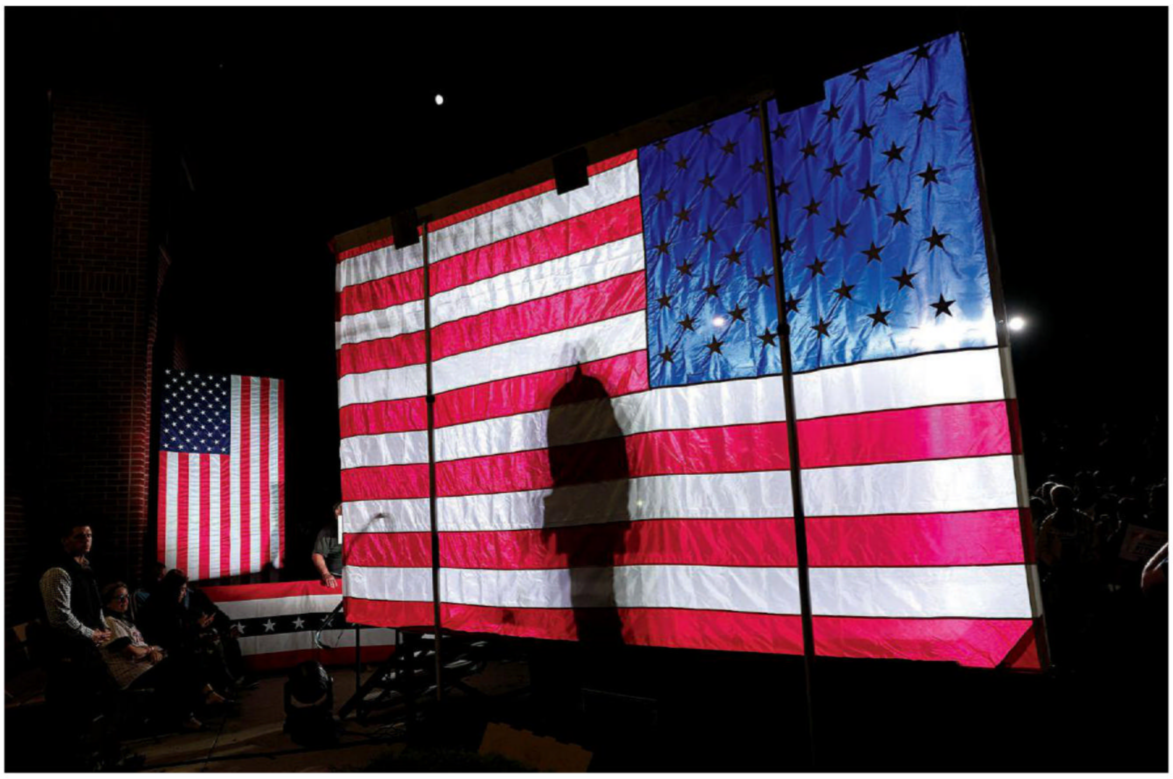
HEALTH CORRESPONDENT

At this stage of the pandemic, when most people have been vaccinated several times and treatments are available, it's tempting to forget about the virus. Long COVID is among the most compelling reasons not to. Many, many people have developed long-lasting, sometimes debilitating symptoms after getting infected, even if they were vaccinated or had a mild case.

And, according to a December report from the National Center for Health Statistics, **Long COVID contributed to more than 3,500 U.S. deaths from January 2020 to June 2022,** for an age-adjusted death rate of 6.3 per 1 million people. The report didn't go into much detail about how these people died (the research was based on death-certificate data, which tell a limited story), but experts tell me Long COVID may have caused or exacerbated conditions including organ damage, heart disease, and blood clots.

To keep things in perspective, the 3,500 deaths mentioned in the report account for fewer than 1% of the more than 1 million COVID-19-related fatalities recorded in the first 30 months of the pandemic. But experts said that number may be an undercount, since lots of people aren't properly diagnosed with Long COVID or suffer complications that aren't obviously linked to their initial COVID-19 cases. And any number of unnecessary deaths is a tragedy—especially when we have tools, like masks and vaccines, that can help prevent some illnesses in the first place. With the new XBB.1.5 variant on the rise, those tools are once again crucial.

For more health news, sign up for Health Matters at **time.com/health-matters**



*Democrat John Fetterman, who benefited from bad GOP recruiting, at a Nov. 3 event*

## The D.C. Brief

## By Philip Elliott

WASHINGTON CORRESPONDENT

FROM THE OUTSIDE, THE DEMOCRATIC Party has enjoyed a good run lately: beating historical trends in the House, holding the Senate, and expanding its power in state capitals. **That doesn't mean Democrats actually merited that success in November's midterm elections—or can depend on it going forward.**

The party's image remains in fixer-upper mode, and its agenda isn't terribly popular. As one sharp strategist put it in an election-eve memo, "if Democrats manage to hold on to the House and Senate, it will be in spite of the party brand, not because of it." To channel President Joe Biden: that is not hyperbole.

The warnings were manifest. One Democratic research project ahead of Election Day found that the party was seen as rejecting capitalism. Others warned that Democrats were taking voters of color for granted. Yet another survey showed a 55% majority of all voters saw the Democratic Party as preachy and too extreme, and none too loving of the US of A.

The main reason Democrats prevailed was this: Republicans came off as more extreme in specific places, communities where 7% to 13% of typically reliable GOP voters just couldn't pull the lever for Senate nominees in competitive races. But hoping the GOP keeps nominating unelectable candidates just isn't a responsible strategy. There has to be something better, and it has to start in Democrats' own tent.

From Labor Day to late October, Republican-allied groups spent $115 million on ads criticizing Democrats on crime and immigration in the top eight Senate races, a 3-to-1 ownership of that space. Public safety—a.k.a. "open borders" and "defund the police"—accounted for 45% of Republicans' messaging in the final weeks. And, absent some bad GOP nominees, it might well have worked. Nationally, voters who said crime was their top issue broke roughly 2 to 1 Republican. On immigration, that lopsided result was 3 to 1, according to exit polls. Had it not been for a 53-point Democratic advantage among voters who put abortion rights at the top of their list, this election's results—and the new Congress—would have been far different.

Democrats had braced for a walloping that never arrived. They're still staggering and stammering, but equally unready for the sequel.

For more from Washington, sign up for TIME's politics newsletter at **time.com/theDCbrief**

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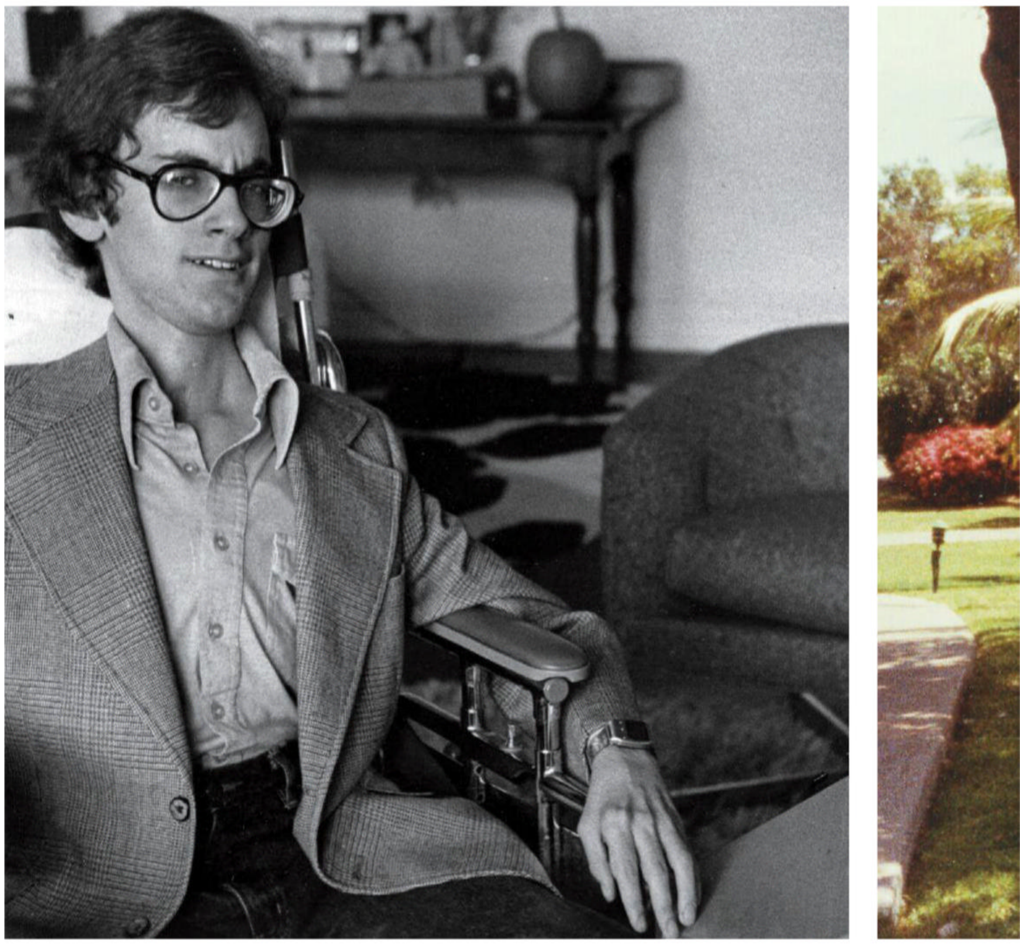
NATION

# Learning to celebrate disability culture

**BY BEN MATTLIN**



*Ben Mattlin at age 17 in 1979; right, with his girlfriend, now wife, ML in Hawaii in 1983*

OVER THE PAST SEVERAL DECADES—EVEN BEFORE the Americans With Disabilities Act (ADA) of 1990, and more emphatically ever since—the idea of disability shifted from a medical signifier to an emblem of cultural identity. People will tell you, in various ways, “Don’t say I have ‘special needs’ or am ‘physically challenged.’ Don’t even call me a ‘person with a disability.’ I’m a disabled person”—with *disabled* first and foremost, imparting an unapologetic pride.

Pride in disability isn’t new—there have been Disability Pride parades at least since the early 1990s—but the language preference and the culture and identity shift it reflects are new. At least, to me. My generation of activists preferred “person first” language, which is why the law isn’t called the Disabled Americans Act. Clunky and awkward as it sounds, the phrase *people with disabilities* became the standard. It emphasized our humanity, we thought.

But the new generation has pointed out the error in that kind of thinking—that putting *disabled* first is a badge of honor. In fact, it’s become so widely accepted that it practically feels required. No hesitancy or shyness allowed.

As a lifelong disabled person, I’m ashamed to admit that I struggled a bit to embrace this concept.

I was born 60 years ago with a form of spinal muscular atrophy, a progressive neuromuscular weakness. I’ve never walked or stood. Today, I no longer have the strength to feed myself or hold a pencil; I’m writing this with voice-recognition software. My increasing weakness is not something I like, but if I think about it, I realize that that doesn’t mean I’d prefer to be nondisabled. I like myself, I like my life, and I honestly can’t imagine existing in any other way. I’m not ashamed of my disability. But am I culturally disabled? Do I want to proclaim my disability as a primary identity marker?

**WHEN I WAS GROWING UP** in the 1960s and ’70s, my parents insisted I could be anything I wanted when I grew up. It wasn’t true, of course, but this was a much better message than the unwittingly heartless prognosis of gloom and doom that some of my peers received. My mom and dad went to great pains to make sure my upbringing was as “normal”—or at least similar to my nondisabled brother’s—as possible. They fought to have me mainstreamed in regular schools years before the integration of disabled students became law. As a result, I never knew other “handicapped kids,” as we were called then.

It wasn’t until I was in college that I heard about the disability-rights movement. It so happened that the very year I graduated from high school, 1980, was the deadline for institutions that receive federal funds—including private colleges and universities with federal tuition grants and scholarships—to become accessible (per the Rehabilitation Act of 1973). These new rules wouldn’t have happened without the perseverance of disability activists. But at that point I had no interest in becoming one of them. I figured I wasn’t the activist type, but the truth is I didn’t want to associate with other crips.

Something happened after graduation, though—or rather, didn’t. I couldn’t find a job. My prospects looked good on paper but not in person, apparently. In interview after interview, potential employers’ jaws dropped when they met me face-to-face. Confronted with so much rejection, I began to feel kinship with the disability-rights brigade. Slogans such as “Build access for ALL!” and “I can’t even get to the BACK of the bus!” started ringing true for me. Inaccessibility and ableist bigotry—terms I was learning to get the hang of—truly did more harm than my muscle atrophy.

Over the next few years, I wrote letters to Congress and newspaper editors. I went to group meetings and

COURTESY BEN MATTLIN

I've come to see that my disability is about more than myself

protest demonstrations. Any chance I got, I gave "testimony" about how I'd faced discrimination. The July morning when the ADA was signed into law, I was glued to the live TV coverage. I couldn't believe our ideas had become reality. I was 27 years old and had never felt more awestruck or validated.

**NOT LONG AFTER,** my wife and I had kids and got busy with the rest of our lives. I never landed a full-time job (until 2022), but I managed to eke out a meager income as a freelance writer. In time, many of my friends from the movement died. Advocacy fell behind me. I didn't exactly become complacent, but I knew that I had rights and if I had to assert them, I would. I enjoyed a degree of security in that knowledge. But I thought that perhaps disability activism had died out with my generation.

I was wrong.

About five years ago, I began noticing billboards and glossy magazine covers with visibly disabled models on them. Then TV comedies such as ABC's *Speechless* and Netflix's *Special* with visibly disabled actors were earning critical acclaim and high enough audience share to be renewed for another season. Wheelchair-using actor Ali Stroker won a Tony for portraying the town flirt, Ado Annie, in the musical *Oklahoma!,* which had never been cast that way before.

Somehow, while I wasn't looking, a new generation had made incredible progress. They'd taken the rights my peers and predecessors fought for and made them their own in ways I'd never imagined. On social media, everyday disabled folks were posting selfies that plainly displayed their wheelchairs, crutches, facial deformities, tracheostomies, or a combination of these, posing at home, in busy marketplaces, at golden beachfront oases, in elegant urban settings, and on snowy mountaintops—laughing, kissing, dancing, shopping, eating and drinking, or just voguing. Hashtags such as #DisabledAndCute, #WheelsNoHeels, and #DisabledFashion expressed their blatant moxie. They'd achieved a degree of self-confidence that even their prophetic forebears hadn't dreamed possible.

Ironically, much of this post-ADA progress had to do with addressing the shortcomings of the movement I had known. We—my "cohort"—overlooked so many types of people. We scarcely acknowledged the contributions of nonwhite and queer or nonbinary disabled folks, and the intersectional intolerances they face to this day. We were often dismissive of neurodiversity and other less visible conditions, prompting the rise of autistic self-advocacy networks. Still more pockets of disability that had been marginalized or erased from the broader narrative began laying claim to full inclusion and parity, such as those with emotional disabilities and chronic illnesses.

To comprehend how disabled Americans can make up more than 61 million souls, according to the CDC, or roughly 26% of the adult population, you have to recognize that we include the nearly half-million Americans who contract Lyme disease annually, 1.2 million Americans who are HIV-positive, 1.5 million Americans with lupus, and between 7.7 million and 23 million COVID-19 long-haulers, among many others.

I've come to see that my disability is about more than myself. It's a connection to a deep, multilayered heritage. I am inextricably linked to an enduring community of all colors, shapes, sizes, castes, ethnicities, orientations, and capabilities—a community that not only contributes to society but has always done so.

Embracing disability as an ennobling marker of kinship is almost inevitable once you start appreciating the connection it gives you to this complex, tenacious crew. To put it another way, the more I know about my disabled peers and ancestors, the better I feel about being a member of the club.

So, yes, I am culturally disabled. It's part of my identity, something I feel deep in my bones. Being culturally disabled not only means I'm proud of the way I am, it also tells me I'm not alone.

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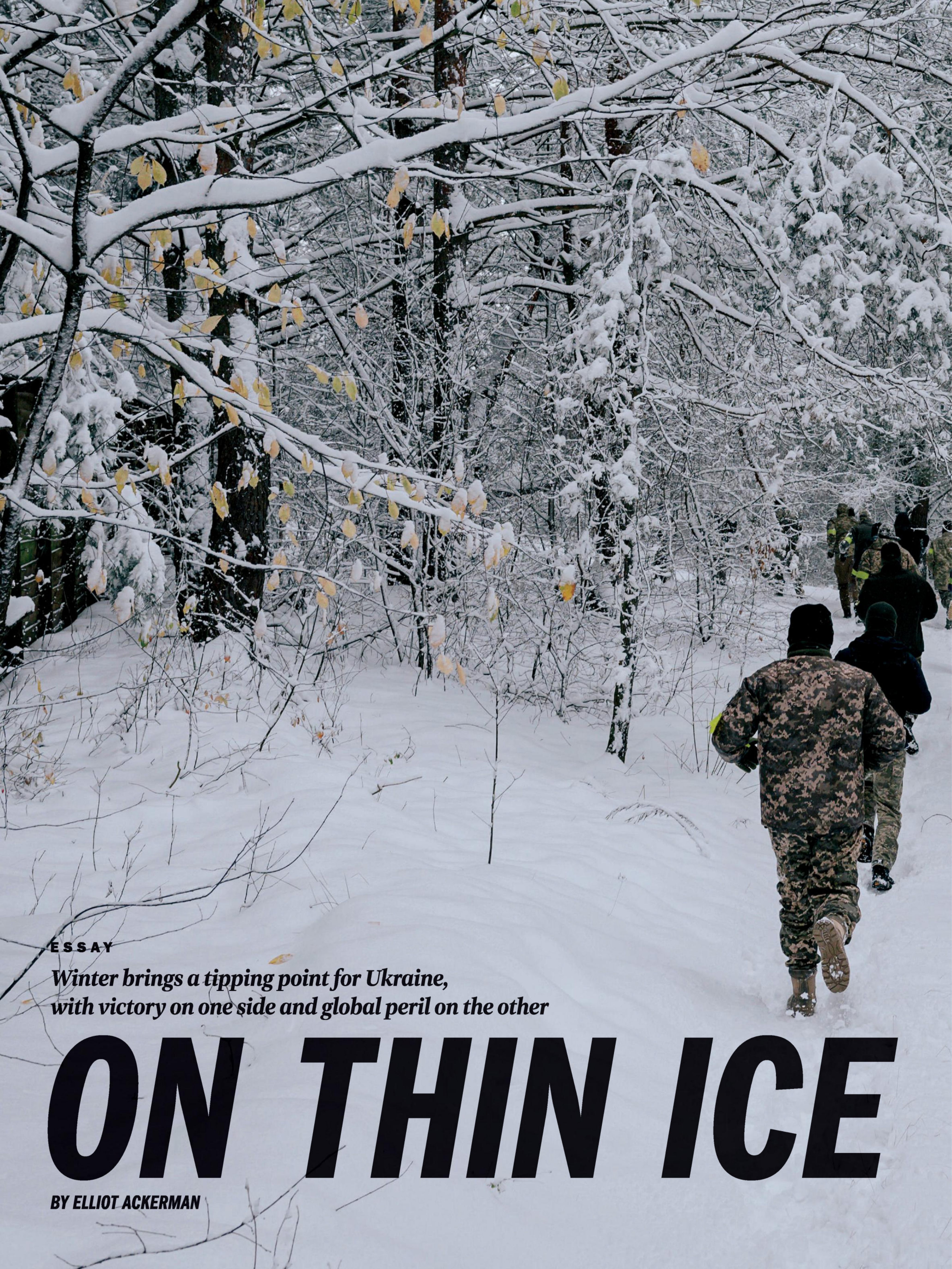
*Mattlin is the author of* Disability Pride: Dispatches From a Post-ADA World, *from which this essay is adapted*



ESSAY

*Winter brings a tipping point for Ukraine, with victory on one side and global peril on the other*

# ON THIN ICE

**BY ELLIOT ACKERMAN**

*Ukrainian trainees at a secret location in Kyiv Oblast in November*

PHOTOGRAPHS BY FABIAN RITTER

During my years in the Marine Corps, I participated in military operations as diverse as night ambushes, amphibious raids, and helicopter assaults. All required intricate planning. Gathered around maps and satellite imagery, my colleagues and I had to consider all three of the dimensions in which war is typically waged: land, sea, and air. Once our plans were laid, there was always one last step before our mission: we would synchronize our watches. This ritual acknowledged the final dimension in which war is waged: time. Too often our analysis of a conflict neglects time as a space through which armies maneuver. But in Ukraine, as winter sets in and the war enters its second year, time will prove decisive.

Time is not on Ukraine's side. A strategy of maximum pressure may provide the only path to victory, requiring Ukraine and its allies to remain relentlessly on the offensive this winter. Begin with the reality that while NATO support increases pressure on Moscow, it also places a weapon in Putin's hand by lending credence to his claims that the West is at war with Russia. It increases the likelihood that Russia will expand the scope of the war, to include the use of nuclear weapons, a threat Putin habitually makes. A strategy of maximum pressure carries heightened risks, but the alternative is almost certain defeat.

If the efficacy of the Ukrainians' September offensive is an indicator of their capability, there is reason to believe that subsequent offensives could lead to equally significant territorial gains. But success poses its own challenges. President Volodymyr Zelensky has maintained throughout the war that it will end in negotiations. Victory on the battlefield creates the route to the negotiating table; it is telling, however, that even though both sides said in late December that they were ready to talk, they did so only with conditions they must have known the other would not meet.

Ukraine is fighting a war for national survival, while Russia is fighting a war of choice. This dynamic could shift the longer the war goes on. As backing down becomes less of a possibility for Russia, the stakes of the conflict increase for its leadership. This creates a dangerous tension in which neither Russia nor Ukraine can countenance any result but total victory. This could escalate the conflict for both sides, spiraling toward the total war that many fear.

In the early days of the war in 2022, NATO nations, led by the U.S., proved cautious in their support of Ukraine given concerns of escalation with Russia. However, Ukrainian battlefield successes coupled with Russian underperformance tempered those concerns. Heading into this winter, the Biden Administration has taken a notably more aggressive stance. The warm welcome Zelensky received in Washington in December preceded the authorization of a record aid package and the deployment of Patriot missiles. The White House seems to understand that the war is entering a new phase.

A Ukrainian winter offensive appears likely. It would take place largely in the east and would not only seize back terrain lost to Russian forces, but also keep those forces off-balance. This would deny the Russians the ability to rest and refit through the winter months. The Ukrainians are equally exhausted, but to be successful they will need to pull off the extraordinary dual feat of launching an offensive while simultaneously replenishing and refitting their own forces. If the Ukrainians can achieve this, they'll be well positioned in the spring. That is when the war will be decided.

**A lengthy war** inherently favors Russia. It increases the odds that other authoritarian nations—such as Iran or China—will become more actively involved. Iran has already provided material support, like drones, to Russia. The longer the war drags on, the more likely it becomes that other nations will follow suit. It also makes it increasingly difficult for NATO to hold together an economic alliance against Russia. A swift resolution to the war in Ukraine isn't only in the best interests of Ukraine, but also the stability of the world.

Although Putin, with his absurd claims of denazifying Ukraine, has often evoked the Second World War as a historical analogue, Zelensky would

*In a classroom at a military school in Kyiv Oblast in November, young Ukrainians prepare for a career in war*

DOCKS COLLECTIVE

be wise to look at Finland's victory over the Soviet Union in the Winter War as a strategic analogue. Just as Putin's invasion of Ukraine was based on fears of NATO expansion, Stalin's invasion of Finland in November 1939 was based on fears of a noncommunist, nationalist Finland along the Soviet Union's border, particularly given Hitler's aggression in Western Europe. Also, the Red Army had launched a successful invasion of eastern Poland earlier that year, and Stalin—like Putin—had overestimated his military's capability. He had also underestimated the ferocity of Finnish national pride.

The Red Army's invasion of Finland, which relied on shock and overwhelming force, quickly faltered when Finnish resistance proved stiffer than expected. The Finns, when faced with the choice of digging in against the Soviets or launching a risky winter counteroffensive, chose the latter. Through a combination of partisan tactics and precisely deployed offensive operations, and with the aid of brutal weather, the Finns expelled the Soviets by March 1940.

**THE RUSSIANS HAVE ALREADY LAUNCHED THEIR OWN WINTER OFFENSIVE**

Although the Finns outmaneuvered the Soviets on land, they also outmaneuvered them with regard to time. They understood that a limited window existed for them to achieve victory, and so they maintained the offensive through a punishing winter. The Ukrainians find themselves in a similar position today. A war that grinds on into a second, third, or even fourth year fatally disadvantages them.

Zelensky, unlike Putin, requires the support of an alliance to sustain his war. The member nations of that alliance are subject to the vicissitudes of their domestic politics. The war in Ukraine could just as easily be lost at an American or European ballot box as on the battlefield. Thus far, support for Ukraine has proved durable among allied nations. According to an October Ipsos poll, 73% of Americans believe the U.S. should continue to provide military aid. A similar poll, taken in Europe, showed that 61% of Germans and 63% of the French support the war. Those are strong majorities. But they are majorities that Russia is targeting.

The Russians have already launched their own winter offensive, one that targets Ukraine's civilian population and infrastructure, as well as an economic one that takes aim at energy and commodity prices. Even if Russia's economic warfare proves ineffective, support for Ukraine will eventually falter in the face of competing international priorities. The Russians know this. They will use the winter to replenish their forces, leveraging arms shipments from allies like Iran while also integrating conscripts into their diminished ranks. This buildup places urgency on Ukraine's military operations.

Those operations must proceed with a coherent, integrated strategy, in which Ukraine and NATO share a similar vision of victory. Offensive operations in the dead of winter require significant resourcing, which the U.S. has until recently provided at a too sluggish pace that has struggled to keep up with Ukrainian demand. At every juncture—whether it's been the provisioning of Javelins, HIMARS, or Switchblade drones—Ukrainians have deployed these weapons responsibly and with devastating effects. If the Biden Administration wants Ukraine to win, its window to arm it with weapons that will provide a decisive advantage is narrowing.

It is imperative that Ukrainian and NATO strategists use this winter to set conditions favorable for a massive Ukrainian counteroffensive when the weather turns. If the Russians are given time to rest and refit, they will be the ones to resume the offensive. This isn't to say that Ukraine doesn't also possesses inherent advantages. One of the most significant is counterintuitive: Ukraine possesses a manpower advantage over the Russians.

Throughout history, Russia's vast territory has granted it an equally large population to draw from, typically giving it a numerical advantage. Both Hitler and Napoleon learned through bitter experience the dangers of awakening the proverbial Russian bear. Their armies were crushed by the resources Russia can hurl against an invader; except in Ukraine, Russia is the invader, and it is becoming difficult for Putin to mobilize his population the way his predecessors did. The past year has demonstrated that a mobilized army is no match against a mobilized society. It is Ukraine that possesses the numerical advantage today.

Russian conscription efforts, which have thus far proved lackluster, are designed to offset this imbalance. It's doubtful that Russia will ever be able to mobilize an army—conscripted or otherwise—that strips the Ukrainian population of its inherent numerical advantage; however, the passage of time allows Russia to hone its conscription efforts while the Ukrainians continue to suffer difficult-to-replace losses, balancing the scales a bit more in Russia's favor.

The operational specifics of a winter offensive are difficult to predict. The Russians have, thus far, demonstrated a remarkable lack of imagination and adaptability on the battlefield. Their centralized command structure has made it difficult for them to respond to a more fluid, decentralized Ukrainian military command. Partisan activities behind Russian lines in Zaporizhzhia and Luhansk Oblast have made it difficult for the Russians to consolidate their gains. The Ukrainians would be wise to capitalize on the resistance in Russian rear areas while they still can. The Russian strategy of warfare—one that is attritive and seeks to wear out their enemy—often creates risk aversion, in which commanders aren't fighting to win so much as fighting not to lose. Reports of Russian logistical shortfalls, senseless frontal assaults, and the deaths of senior commanders all demonstrate Russia's vulnerability to a well-planned and equally well-resourced Ukrainian offensive.

The Winter War, which history remembers as a Finnish victory, was ended at the negotiating table. Despite their battlefield success, the price of peace for the Finns—who had so thoroughly humiliated the Red Army—were territorial concessions that exceeded prewar Soviet demands. In a deal that has ensured their sovereignty, the Finns yielded nearly one-tenth of their territory to the Soviets. Ultimately, it proved a wise choice, and it kept generations of Finns out from behind the Iron Curtain.

In the months ahead, these kinds of decisions will confront Ukraine's leaders. As the war enters this next phase, in the air, on land, and at sea, it is critical that the Ukrainians—and we, their allies—make wise use of the time we have left.

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*Ackerman is the author of several novels and the memoir* The Fifth Act: America's End in Afghanistan

# WILL IT GO NUCLEAR?

## *The crucible of Ukraine*

**BY GRAHAM ALLISON**

AS PUTIN THREATENS TO STRIKE UKRAINE WITH tactical nuclear weapons and Biden warns that this risks escalation to nuclear Armageddon, many observers have wondered aloud whether the septuagenarian or the octogenarian or both have lost touch with reality. Pundits declare Putin's threats "irrational," since according to them no rational leader could order a nuclear strike on another state. Critics of Biden have seized on his references to Armageddon—for example, when he recently said that "for the first time since the Cuban missile crisis, we have a direct threat to use nuclear weapons" which "could end in Armageddon"—as evidence of "senility."

Even observers less judgmental about Biden and Putin have dismissed these two leaders' talk about nuclear weapons and war as a throwback to the last century. Having come of age since the Cold War ended, many imagined that nuclear weapons had somehow been relegated to the dustbin of history. Foreign policy experts assert that a "nuclear taboo" has made any use of nuclear weapons "inconceivable"—failing to recognize that when one declares something to be inconceivable, that is a statement not about what is possible, but about what one's mind can conceive.

**THANKFULLY, AMERICANS HAVE** a President and national-security team who know better. The Biden Administration has gone to such extraordinary lengths to prevent Putin from conducting a strike because they understand that this really would set in motion a dangerous spiral that could end in full-scale nuclear war. To begin to appreciate what Biden and his team understand, it is useful to consider answers to seven questions.

First: Could Putin rationally order a nuclear strike on Ukraine? Unquestionably yes: as rationally as U.S. President Harry Truman dropped the first atomic bomb on Hiroshima in 1945, killing 140,000 Japanese citizens. Indeed, Truman ordered a second strike on Nagasaki three days later—after which Japan's emperor surrendered.

Second: Would Putin's nuclear attack on Ukraine be a step onto a moving escalator that could end

RUSSIAN DEFENSE MINISTRY PRESS SERVICE/AP

An intercontinental ballistic missile is fired from a launch site in northwest Russia as part of nuclear drills on Oct. 26

with nuclear bombs destroying American and Russian cities? Yes: Putin certainly commands a nuclear arsenal as deadly as the one wielded by leaders of the Soviet Union in the Cold War. If he strikes a Ukrainian city with a Hiroshima-size nuclear bomb, the U.S. has made it clear it will respond in a way that has "catastrophic consequences" for Russia. While the U.S. response would almost certainly not include a retaliatory nuclear strike on Russia, it could mean attacking Russian military forces in Ukraine, which could lead to further Russian nuclear attacks on Ukraine. And then? In hundreds of simulations of war games by national-security experts, rarely was it possible to avoid full-scale war.

Third: Under what conditions would Putin be more likely than not to order a nuclear strike? Answer: if conditions on the battlefield force him to choose between a humiliating defeat, on one hand, and a nuclear attack that offers even a slim chance of an acceptable outcome to his war, on the other. If Zelensky succeeds in his current objective to liberate every square inch of Ukraine seized by Russia, including Crimea, this decisive defeat of Putin's armies would not pose an existential threat to Russia. It would, however, pose an existential threat to Putin's rule.

Fourth: Do Russia's current nuclear posture, doctrine, and exercises include the first use of tactical nuclear weapons? Yes. Russia's national-security strategy includes a doctrine they call "escalate to de-escalate." To counter a large-scale conventional attack on Russia, their exercises simulate tactical nuclear first strikes against an adversary to force it to stop rather than risking further escalation.

Fifth: Why has the U.S. not been prepared to threaten to retaliate against a Russian nuclear strike on Ukraine with an equivalent nuclear attack on Russia? Because as Biden has said from the outset of the crisis, "the U.S. will not fight World War III for Ukraine." The brute fact that Biden knows, but that many of those now demanding that he move more forcefully against Putin have conveniently forgotten or want to deny, is that in relations with Putin's Russia, the U.S. continues to survive in a MAD (mutually assured destruction) world.

Sixth: Why in these conditions did President Ronald Reagan declare, "A nuclear war cannot be won and must therefore never be fought"? Because if the price of a war that completely destroys the enemy is the destruction of one's own society, as Reagan insisted, "no one could call that a victory."

Seventh: Does the imperative of not fighting a war with a nuclear-armed adversary require passivity when it acts in ways that challenge our interests? Answer: no. But these conditions do create a demand for extraordinary strategic imagination. Statesmen we now honor as the "wise men" developed a strategy for what came to be called the Cold War. The Cold War included a determined effort to defeat and undermine the Soviet adversary by every means possible except one—bombs and bullets wielded by uniformed members of the U.S. military killing uniformed Soviet military.

In crafting a strategy that is now defeating Putin's attempt to erase Ukraine from the map, the Biden Administration has drawn from the earlier playbook. It has organized comprehensive Western sanctions that are crippling Russia's economy and provided arms, training, intelligence, and other support for Ukrainians on the battlefield. While it is too soon to offer judgment about the outcome of the war, at this point it seems likely that when the intense fighting subsides, Ukraine will emerge as a free, independent, vibrant nation; Putin's war will be seen to have been a colossal strategic blunder; NATO will have been revived; and most important, there will have been no nuclear war.

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*Allison is the Douglas Dillon Professor of Government at Harvard University*

# AN EXPLOSIVE FIGHT

## *Beatrice Fihn isn't giving up on a future free of nuclear weapons*

### BY NAINA BAJEKAL

MARCH 2017 WAS AN EXHILARATING TIME FOR Beatrice Fihn. The executive director of the International Campaign to Abolish Nuclear Weapons (ICAN) was at the U.N. in New York City for talks with more than 120 countries to negotiate a treaty on banning nuclear weapons. One moment still stands out: Nikki Haley, then U.S. ambassador to the U.N., and a group of diplomats from several NATO countries held a press conference outside the General Assembly to protest the talks.

"It was such a hilarious role reversal," Fihn tells me when we meet for lunch in New York this fall, referring to all the times nuclear-disarmament activists have been outside the corridors of power. "Now, we were in the driver's seat."

Fihn, 40, has been trying to shift these dynamics ever since she took the helm of the Geneva-based ICAN nearly a decade ago. In 2017, the charismatic Swedish lawyer was thrust into the spotlight when she accepted the Nobel Peace Prize for ICAN's work to draw attention to the humanitarian consequences of nuclear weapons and its efforts to establish the Treaty on the Prohibition of Nuclear Weapons (TPNW). Now ratified by 68 countries, mostly in the Global South, the ban treaty entered into force in January 2021—the first international legally binding agreement to ban nuclear weapons and activities like testing and development.

However, since then, Fihn feels like things have backslid. Vladimir Putin's threats have reminded the world that nuclear war is not just a Cold War–era concern. In a March poll, 7 in 10 Americans said Russia's invasion of Ukraine increased the possibility of nuclear weapons being used anywhere. "There's so much happening and it's hard to keep up—a lot of anxiety and awfulness," Fihn says. Growing great-power competition—from Kim Jong Un's nuclear tests to China's expanding arsenal—raises the stakes for Western democracies, she argues. "Nuclear weapons make us vulnerable to dictators that do not answer to their people."

Though Fihn announced in November that she would step down as ICAN's executive director at the end of January, she plans to remain involved and is optimistic about this moment, pointing to progress made after crises in the 1960s and 1980s when the world came to the brink of nuclear war. "People are talking about nuclear weapons more than they have since the '80s. We have to use this to build a bigger movement—to double or triple in size—so we can set the stage for when the war is over," she says. "Tomorrow just needs to be bigger than today."

**DESPITE BEING ONE** of the most visible faces of the disarmament movement, Fihn says she got into this field of work "a bit by mistake." She grew up in a suburb of Gothenburg, Sweden, and recalls new classmates fleeing the war in the Balkans in the '90s. Learning more about that conflict led her to study international relations at college in Stockholm. Hoping to work in human rights, she was thrilled to get an internship in 2006 with an NGO in Geneva. She was less pleased to discover the

PHOTOGRAPH BY MUSTAFAH ABDULAZIZ FOR TIME

*Fihn photographed on Dec. 15 in Geneva, where ICAN is based* work would focus on nuclear weapons. “I thought it would be super boring, really old-school, irrelevant,” she says. To her surprise, the topic proved fascinating. “There’s no bigger issue—and we don’t talk about it. It was this ultimate symbol of oppression and injustice in a way.”

Since the Nuclear Non-Proliferation Treaty (NPT) of 1968, five countries—the U.S., the U.K., Russia, France, and China—have been legally permitted to have nuclear weapons, while the rest are not. These countries, known as the P5, have permanent seats on the U.N. Security Council and wield immense power in the international community.

In joining the NPT, non-nuclear-armed states agreed never to acquire nuclear weapons, while nuclear-armed ones committed to making progress toward complete disarmament. A total of 191 countries, including the P5, are now signatories. India and Pakistan, which have publicly declared their nuclear arsenals, never signed, nor did Israel, which is widely believed to have these weapons but maintains a policy of deliberate ambiguity. North Korea withdrew from the NPT in 2003. (Some nations, like Germany and Turkey, host U.S. weapons as part of NATO’s nuclear-sharing policy but do not have their own.)

In many ways, the NPT has been a success: 77 years after the U.S. dropped nuclear bombs on Hiroshima and Nagasaki, that remains the only wartime use of the weapons. Warnings that the world would eventually have dozens of nuclear-armed states have not come to pass, and the global tally of nuclear weapons has gone from more than 60,000 in 1986 to less than 10,000 today, almost all of which are held by the U.S. or Russia. But, Fihn says, “the goalposts for disarmament just keep moving.” China, North Korea, India, Pakistan, Russia, and the U.K. are all increasing their warhead stockpiles; the U.S. has been reducing its arsenal but is embarking on a $1.5 trillion overhaul, vastly expanding its capabilities.

The ban treaty offers, in Fihn’s view, a way for countries to express their condemnation of a system that gives a handful of nations a monopoly on nuclear weapons while the rest will only bear their consequences. “Instead of just waiting for them to come to the table, our goal is to change the landscape,” Fihn says. “What can Jamaica do? What can Fiji do? How can they play a role rather than just waiting for the nuclear-armed states to be ready?”

ICAN also brings in ordinary citizens from countries that hold nuclear weapons, where public support for them is low. A 2019 poll of U.S. and Japanese residents found that a majority—64.7% and 75% respectively—wanted their governments to join the ban treaty; a 2020 poll of six NATO states not including the U.S. found overwhelming support for the same.

Still, none of the nine nuclear-armed states, nor any NATO members, have joined the TPNW. The P5 is strongly opposed to the TPNW—which requires the elimination of nuclear weapons, whereas the NPT focuses on preventing their spread—and issued a joint statement in 2018 arguing that the treaty fails to address any of the key obstacles to disarmament. When the Nobel Prize recognized ICAN, the *Economist* called the notion of banning nuclear weapons “a nice but pointless idea.”

Fihn is undeterred. From Geneva, where she lives with her husband and two children, she has spent years trying to build a broad coalition of students, artists, lawyers, doctors, environmental activists, and racial-justice activists. ICAN now counts 652 partner organizations in 110 countries.

The Nobel Prize offered them a massive boost. “We weren’t heads of state, or big celebrities. We were just random people doing some petitions, seminars, panels, emailing parliamentarians, nagging politicians, holding meetings. There are no TV shows about negotiators for a reason,” she laughs.

**NUCLEAR WEAPONS, FIHN SAYS,** are “pretty simple: big bomb goes boom.” What she wants to talk about is what happens afterward: the radiation, the firestorms; the cancers, the miscarriages, the stillborn babies; the collapse of health and food systems. What to do with hundreds of thousands of dead bodies. “I hate that our work is often called naive,” Fihn says. “We’re the ones actually talking about what happens if a bomb goes off. Thinking that we can just wait forever and someday the nuclear-weapon states will just agree? That’s naive.”

Fihn believes that amplifying survivors’ stories is critical to building a movement against nuclear weapons. During the Nobel Peace Prize ceremony, she shared the stage with Setsuko Thurlow, an ICAN campaigner who was 13 when the U.S. attacked Hiroshima. “The first image that comes to mind is of my 4-year-old nephew, Eiji,” Thurlow said, “his little body transformed into an unrecognizable melted chunk of flesh … To me, he came to represent all the innocent children of the world, threatened as they are at this very moment by nuclear weapons.” Fihn has also highlighted their effects on marginalized communities, from U.S. nuclear tests on the Marshall Islands to British ones on Indigenous lands in Australia.

But while the P5 affirmed in January 2022 that “a nuclear war cannot be won and must never be fought,” experts say the nuclear taboo has been weakened since President Trump’s time in office—and especially since Russia invaded Ukraine. It’s no longer unusual to talk about small or tactical nuclear weapons, though in today’s parlance, the bombs dropped in Japan would be considered “small.” Fihn thinks this technical language—

of war games and deterrence—desensitizes the public to the scale of destruction a nuclear bomb can cause. “This is not a weapon targeted to take out an evil dictator,” she says. “This is a weapon built to wipe out a whole city.”

That capability has some experts worried that the TPNW is getting too much attention at a time when more urgent action is needed. Christine Parthemore, CEO of the Council on Strategic Risks, argues that the focus should not be on a “10- or 20-year plan to shift norms” toward disarmament. Instead, diplomats should use their limited bandwidth on strategies to improve communication between nuclear-armed states and negotiations on arms control, to reduce the chance of catastrophic escalation. “You’ve got to have a realistic option—to be able to say to those in government: these are the things that you can do to at least get off this very dangerous path we’re on right now,” she says.

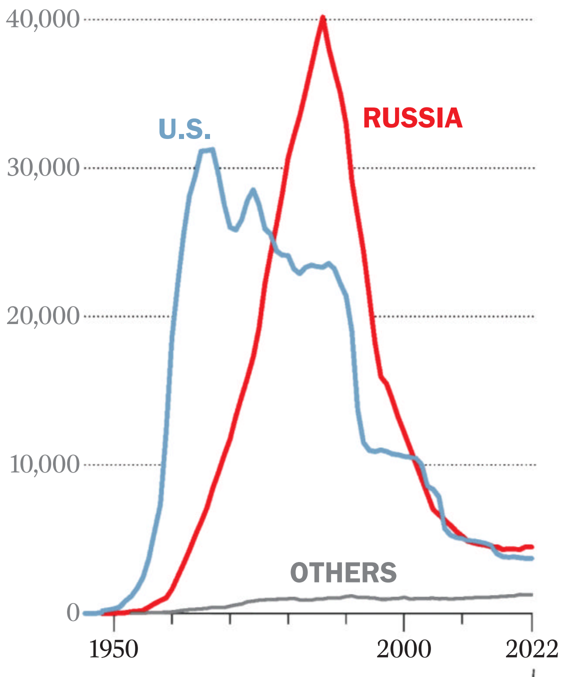
Fihn disagrees, saying rather than compromising off the bat, the ban treaty aims to raise expectations—and to remind the world’s most powerful governments that others disapprove: “Nigeria is the fastest-growing country in the world. It’s a massive thing that they are swearing off nuclear weapons forever.”

Some experts say the value of the ban isn’t determined by whether or not it achieves disarmament. That is, after all, “a multigeneration project that brings together verification science with extraordinary foresight, diplomatic skill, and political leadership,” wrote nuclear-security experts Carl Robichaud and Karim Kamel in a 2021 article for the Bulletin of the Atomic Scientists. “But first it requires a change in our collective beliefs about nuclear weapons. This is the contribution of the ban treaty, and it should not be underestimated.”

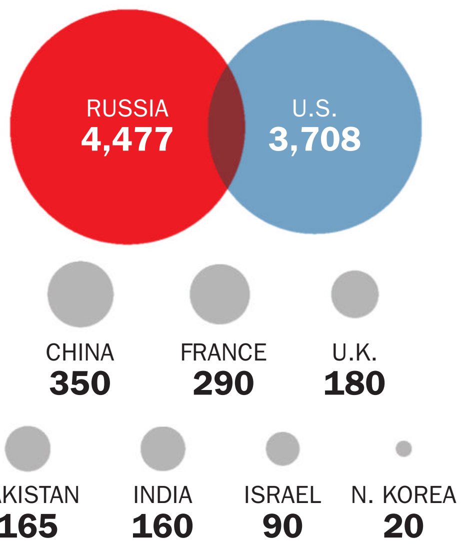
“In order to even start the process of nuclear disarmament, you have to agree that these are bad weapons and we shouldn’t have them,” Fihn says. “That’s step one.”

## NUKE NUMBERS

Many countries are growing warhead stockpiles. The U.S. is shrinking its arsenal, but expanding capabilities



**The current count**



INCLUDES ACTIVE AND INACTIVE WARHEADS THAT ARE IN MILITARY CUSTODY AND EARMARKED FOR USE BY COMMISSIONED DELIVERY VEHICLES. DOES NOT INCLUDE RETIRED WARHEADS IN THE QUEUE FOR DISMANTLEMENT

SOURCE: HANS M. KRISTENSEN, MATT KORDA, AND ROBERT NORRIS, FEDERATION OF AMERICAN SCIENTISTS, 2022

**FOR SOMEONE WHOSE JOB** it is to think about global devastation, Fihn is keen to talk about joy. Having fun—whether it’s after-work drinks or a Zoom celebration to toast high schoolers getting the city of Winnipeg to vote in favor of the TPNW—has been a deliberate strategy on her part. “Making sure that we don’t burn out is more important than ever. We don’t just want the people who are in fields of profit to have all the fun,” she says. That doesn’t mean she’s immune to the stress of recent years. “I feel very hopeless many days of the week, about the climate, abortion rights, the fight for democracy. But of course, none of it is fixed.”

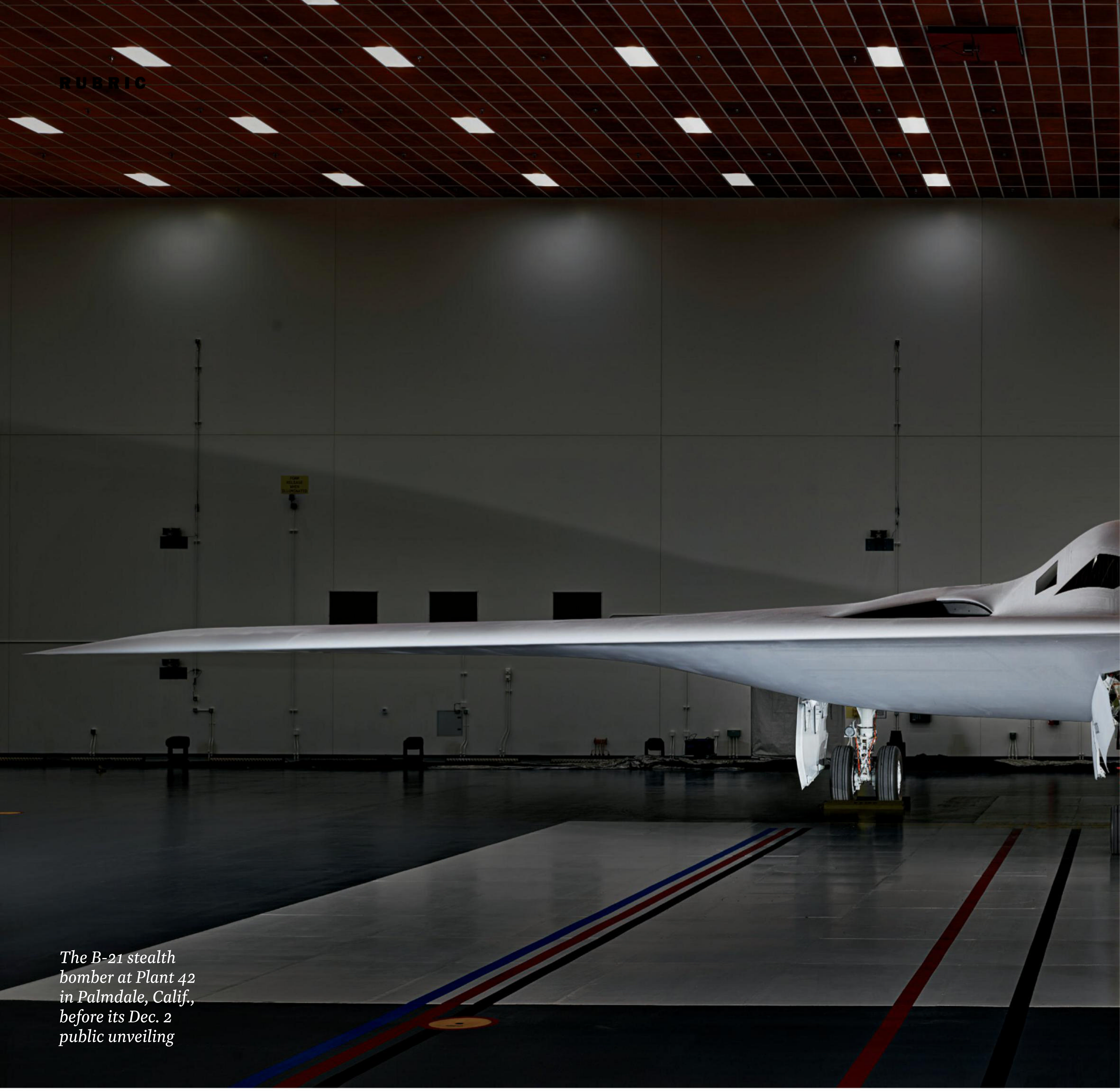
She began thinking about stepping down last summer, after a meeting in Vienna for the countries that signed on to the treaty. She saw how big the campaign had become, with a new influx of youth activists. “I just felt like, Oh, we’re exactly where I wanted us to be,” she told me on Dec. 5, in her first interview after announcing her departure. “It’s been a pretty wild ride and we’ve done a lot of great things, but I felt both that ICAN could do with a new person leading it, with new energy, creativity, ideas, and that I would need to not be at the center of attention for a bit.”

It’s a good moment to hand over the reins, she says. Alongside the growing concern about nuclear war, ICAN has relatively stable funding for the next three years—rare in a field so dependent on philanthropy. “This is a very underfunded area compared to, for example, climate change,” says Fihn, who plans to join ICAN’s board but also wants to explore other issues, like global health.

She wants to see the conversation around nuclear weapons enter pop culture and is meeting with artists about potential collaborations. She is also eager to persuade donors to put more money toward mobilizing the public, rather than funding expert policy advice. “It’s not like we’re lacking smart ideas on how to solve this issue,” she says. “We’re lacking political pressure.”

Fihn says she’s learned some lessons from the Trump years about not reacting to the news cycle. “We are trying to stick to the plan of building pressure and chipping away at each country to get them on board with the ban, and use that to influence Russia. Rather than wondering, ‘What is Putin saying now?’ we try to set our own agenda.”

The good news: Fihn isn’t stepping down because she thinks the end of the world is coming soon. “I don’t think we’re doomed,” she says. “I do think we have to actively do something about it if we don’t want to be. But we’re still in the fight, and we haven’t lost yet. Every day that a nuclear weapon isn’t used is a good day.” —*With reporting by* MARIAH ESPADA/NEW YORK ▯



*The B-21 stealth bomber at Plant 42 in Palmdale, Calif., before its Dec. 2 public unveiling*

# A WING AN

PHOTOGRAPHS BY CHRISTOPHER PAYNE FOR TIME

# D A PRAYER

*Inside the Air Force's multibillion-dollar bet on the B-21*

**BY W.J. HENNIGAN/PALMDALE, CALIF.**

Northrop hopes new engineering approaches will mitigate design issues; analysts are skeptical

IN THE PREDAWN DARKNESS OF THE WESTERN Mojave Desert, workers make their way across a parking lot toward a sprawling complex of factories, hangars, and runways. Teams of armed military and civilian guards patrol the grounds leading to the 5,800-acre facility, which is ringed by an elaborate security system and monitored from space by orbiting reconnaissance satellites.

At a fence bristling with razor wire, the men and women pull key cards from their belt-loop lanyards, flash them on a contact sensor, punch in their numerical codes, and push through high-gate turnstiles. Inside, they stow signal-emitting electronics like iPhones and earbuds at a bank of storage shelves, then swipe in at computer monitors to confirm their identities and security clearance. At last, they step onto a gleaming production floor the size of several football fields, a place off-limits to anyone who doesn't have authorization to enter the "black world" of U.S. government secrecy known as SAR: Special Access Required.

This is U.S. Air Force Plant 42, where the military's new stealth bomber, the B-21 Raider, is built. After nearly a decade in the shadows, the B-21 was presented on Dec. 2 to an invitation-only crowd of 3,000, including Defense Secretary Lloyd Austin, top military generals, industry executives, and factory workers. The thin gray aircraft resembled a stingray as it glided through the parting hangar doors and artificial fog to applauding visitors, who were stationed 75 ft. away and permitted to view it only head-on to maintain secrecy. Austin spoke about the B-21's ability to carry "nuclear and conventional munitions" along with future weapons not yet invented. "We are again making it plain to any potential foe: the risks and costs of aggression far outweigh any conceivable gains," he said.

The B-21 is America's first advanced weapon system in a new Cold War with Russia and China. Strategists at the Pentagon envision the radar-evading B-21 penetrating those countries' air defenses to strike fortified targets should the growing military competition with Moscow and Beijing ever turn hot. If everything goes to plan, aerospace giant Northrop Grumman Corp. will produce at least 100 B-21s for the Air Force at a current price tag of $692 million per bomber—roughly the cost of a skyscraper.

But the road from Pentagon war plans to deployable high-tech weaponry is littered with expensive failures. For nearly 40 years, the Air Force has been unable to purchase new planes on time, on budget, and in sufficient numbers. The last time the Air Force bought a bomber, in the 1980s, it wanted 132 planes at about $500 million per aircraft. It received 21 B-2 bombers at $2 billion apiece. Northrop was its partner on that project too, and stumbled through production delays and engineering snags. Produced at the same facility, the B-21's predecessor became a symbol of the government's broken procurement process—a cutting-edge weapons system that is high-priced, short in supply, and seldom used.

The question hanging over the B-21 is whether Northrop and the Air Force learned their lessons before embarking on this new strategic gamble. For the past year, TIME has followed the development of the B-21, visiting Plant 42 ahead of the rollout to observe engineering, manufacturing, and testing teams; speaking with more than three dozen military, industry, and political personnel involved with the program; and reviewing government documents detailing costs. While the program has hit early milestones, the largest challenges lie ahead for the Pentagon, which tends to underestimate risk, technical difficulty, and cost in getting big-ticket programs like the B-21 rolling. More than money is at stake. Success or failure for the B-21 program may determine whether the U.S. retains a long-range-bomber advantage over its global rivals or saddles taxpayers with interest payments on yet another gold-plated budget buster.

**EACH B-21 BOMBER** begins its life on the northern end of Building 401 at Plant 42 as a wedge-shaped, granite-colored shell of lightweight composite materials. It moves southward down the line from one workstation to the next, transforming into a bomber: avionics, radar, sensors, weapons bays, windows, and wings. Traditionally, airplanes are manufactured from the inside out, but it's the other way around for stealth craft. Hundreds of thousands of parts are pieced together inside the B-21's sleek, boomerang-shaped shell. The goal is to keep the sinister-looking jet's exterior as smooth as glass to reduce radar reflection.

Stealth is the B-21's defining feature. From the beginning, Northrop's engineers have labored to create a plane that can fly undetected through enemy airspace and remain invisible to missiles and fighter jets. To lower the infrared and acoustic "signatures," the B-21 will fly at subsonic speeds, powered by jet engines embedded into the wings like shark gills. High-tech coating materials are applied to the rounded exterior, creating a spongelike skin reputed to absorb radar waves as they strike the aircraft. The B-21 is designed to be even stealthier than the B-2, which reportedly appeared no bigger than a tennis ball on radar screens despite a wingspan akin to that of a 747 jumbo jet.

The B-21's size, weight, range, and payload remain undisclosed, but it's noticeably smaller than the B-2. Many of the plane's technical details will likely remain classified for as long as any of us are alive. The Air Force and Northrop have spent an untold fortune preventing leaks. Many suppliers don't know they are making parts for the B-21. Northrop engineers and technicians were unable to tell family or friends they worked on the program until June. Even then, they couldn't reveal what they do all day. "There can be some challenges because we can't really talk about what we do at work," says Hassan Charles, a B-21 technician at Plant 42. "But a lot of hands went into making this bird, a lot of hours, a lot of challenging times."

One Tuesday in November, Charles and dozens of other workers swarmed around four unfinished B-21s, tinkering with fasteners, gauges, switches, and wiring designed to withstand a nuclear blast. It's hands-on, labor-intensive work carried out by technicians rather than robots on an automated line. The B-21 team has produced two planes so far: T-1, the aircraft unveiled during the Dec. 2 rollout, and G-1, which is now undergoing ground tests. Since winning the bomber contract in October 2015, Northrop has constructed three new buildings for assembly here at Plant 42, renovated work spaces, and jump-started new hiring programs to add to the 5,000 people now employed on the project. New hires often wait weeks to obtain government clearances as investigators work to weed out potential spies and criminals.

Perched above the assembly line is a strip of offices, where Northrop's B-21 engineers work. The maze of gray cubicles has artwork taped to the walls: grinning skulls and pirate-themed posters with phrases like RISE OF THE RAIDER. The B-21's nickname, Raider, was inspired by the improbable 1942 U.S. air raid on Tokyo during World War II led by Lieut. Colonel Jimmy Doolittle. The team uses the latest virtual modeling and 3D simulation programs to identify technical issues before they get onto the jet. The company says the approach should help cut costs as the program nears flight-testing.

Embedded with the Northrop team is Colonel Tim Spaulding, the Air Force's B-21 program director and certified test pilot. Spaulding says he is confident the technology is flagging flaws, but says unforeseen issues inevitably will be discovered when the plane first takes to the skies later this year. "It'd be great if you didn't have to learn anything when we build a complex project," Spaulding says. "We know we will. Our goal is to learn it as quickly as we can and to be able to make whatever corrections, if any are required, as quickly as we can."

> **'It's not a question of whether there will be [cost] overruns, but how high they will go.'**
>
> **—WILLIAM HARTUNG,** QUINCY INSTITUTE FOR RESPONSIBLE STATECRAFT

As much as anyone, Spaulding is responsible for keeping the program on time and on budget. He's had to balance the urge to add new capabilities to the plane with the fear of getting off schedule. "Everyone wants a Battlestar Galactica, packed with the latest technology," he says, driving between buildings at Plant 42. "We have to get the first airplanes out there and going, before we're ready to make them better."

So far, the Air Force says, the B-21 is hitting all its projected targets, but it's hard to independently discern the plane's true costs. Yes, the bomber's projected $692 million-per-plane price tag is below the Pentagon's planned costs. But the unclassified numbers, published under the Air Force's procurement and "Research, Development, Test and Evaluation" budget lines, don't tell the whole story. Much of the program remains classified, and the public won't know if there is "black budget" funding. The Air Force plans to spend nearly $20 billion

producing the B-21 for the next five years, according to the Pentagon's 2023 request, but it's not clear how many planes that will buy. Production timelines and rates are classified.

Secrecy may keep foreign adversaries in the dark, but it can also be used to hide costs, says Chuck Spinney, a retired Pentagon weapons analyst who has spent more than a half-century studying politicization of defense procurement. "The trouble with maintaining oversight on programs like the B-21 is all the interesting parts are black," he says. "That's by design. It's business as usual. Because when we find out that something goes wrong—and something always does—it's either too early to tell or too late to do anything about it."

More expenditures lie ahead. The B-21 is designed to drop nuclear weapons, requiring special testing and equipment. But the Air Force doesn't intend to certify the plane for nuclear missions until two years after it enters service in "the mid-2020s," according to Pentagon documents. Analysts view that as a cost-cloaking decision that defers requests for additional funding into future budgets. In addition, the B-21 is designed to be one part of a "family of systems," which may include drones flying alongside it on future bombing runs. It's not clear if additional funding will be needed for the systems to function properly together. "It's not a question of whether there will be overruns, but how high they will go," says William Hartung, senior fellow with the Quincy Institute for Responsible Statecraft.

The Pentagon's most recent fighter-jet program, the F-35, has been beset with production delays and cost overruns for 21 years, with acquisition costs nearly doubling to $428 billion for 2,470 planes. Before that, the Air Force wanted 648 F-22 fighter jets for $149 million each. It received 188 at a price tag of more than $400 million per copy. With this track record, says William LaPlante, the Pentagon's chief weapons buyer, the suspicion of the B-21's true costs is understandable. "There's always been a lot of skepticism—and I think for good reason," he says. "We're just going to have to keep proving to the American people and hold our military accountable."

**THE AEROSPACE INDUSTRY** was stunned when underdog Northrop won the B-21 contract in 2015, beating out a joint bid by the nation's two largest defense contractors, Boeing Co. and Lockheed Martin Corp. Northrop's work on the B-2 had transformed the company from a small firm into a defense behemoth. But $20 billion in research and development for the B-2 produced a delicate creature. Its radar-evading qualities, while revolutionary, demanded constant coddling and perfect weather. Each hour the B-2 spends in the air costs $150,741 and requires 51 hours of maintenance, according to Air Force statistics and the Government Accountability Office. Dubbed a "hangar queen," the jet has made more appearances flying over air shows and sporting events than it has above active battlefields.

Northrop says stealth technology has come a long way since the B-2. Some employees on the B-21 worked on its predecessor, and retired engineers advise on avoiding pitfalls. That may help. "When I walked in the door, very early days, I was handed a B-2 lessons-learned paper, and was pretty much told to memorize it," says Jessi Ross, a B-21 director at Northrop. "And it covered everything, as far as successes and things we would like to do better if we had an opportunity to go do it again." While the B-2 needs a specialized temperature-controlled hangar, Northrop engineers say the B-21 will be left outside under a shelter along the flight line like other planes. Where mechanics spend hours scraping away radar-absorbing material on the B-2 to access wiring under its 100-plus panels, those doors should pop open on the B-21. Unlike the B-2 hangar queen, the B-21 is designed to fly every day.

Northrop's annual revenues have soared 52% to $35.7 billion in the seven years since it won

*New B-21 workers being trained before starting on active assembly lines*

the initial B-21 contract. Over the next 30 years it will cost at least $203 billion to develop, purchase, and operate 100 B-21s, the Air Force says. Northrop hopes for more, but first the jets need to move out of assembly and into the hands of Air Force pilots, says Kathy Warden, the company's CEO. "We have an obligation to deliver on our commitments," Warden tells TIME at Northrop's headquarters in Falls Church, Va. "Part of that is the affordability commitment that we make, not just the technical capability that we're delivering."

Northrop received a $67 million bonus in April for hitting performance targets and says it hopes to stay ahead of timelines. Typically, the first assembled jets are one-off prototypes that need to be heavily modified once the design kinks are worked out. The B-21 rolled out Dec. 2 is more or less production-ready, Northrop officials say. Veteran budget watchers remain skeptical. "The cost of high-tech systems invariably rises because of unrealistic goals and impractical solutions," says Dan Grazier, a retired Marine captain with the nonprofit Project on Government Oversight. "We shouldn't act surprised if the B-21 doesn't live up to every promise."

**THEORETICALLY, THE END** of a major war like the one in Afghanistan brings a "peace dividend," with curtailed defense spending. Not so in the wake of the U.S. retreat from Kabul in August 2021. In October, the Biden Administration unveiled a new defense strategy that puts the U.S. military on a Cold War footing with both Russia and China. The plan foresees the U.S. confronting two nuclear-peer adversaries for the first time with new weaponry, enhanced alliances, and a $1.2 trillion overhaul of the American nuclear arsenal.

The B-21 is a significant line item in that national-security plan and, its designers hope, an important part of America's ability to project force around the world. Roughly half of the Air Force's 141 current bombers are B-52s, which rolled off assembly lines in the Kennedy Administration. In the B-21, onboard computers allow it to fly with a pilot or as a drone, and will enable it to share data with other airborne warplanes. It will also allow for software upgrades in some cases rather than hands-on maintenance.

During the original Cold War, the military's justification for big weapons programs was the Soviet Union. China's rise adds different challenges, including the vastness of the Asia-Pacific region and Beijing's bolstered air defenses, like sophisticated radar, long-range S-400 surface-to-air missiles, and J-20 stealth fighters. These systems could make it harder, for example, for an American President to help defend Taiwan if China decides to invade the island. U.S. cruise missiles could hit targets from more than 1,000 miles away, but only a bomber can persist in contested airspace, and find and attack mobile missiles threatening U.S. aircraft carriers and other forces. The new B-21 stealth bombers are designed to fly thousands of miles away, slip undetected through enemy air defenses, drop several tons of bombs on targets, and clear the way for U.S. and allied militaries. Only the B-2 can currently do that, and the U.S. owns just a handful.

That's one reason the B-21 appears to have budgeting tailwinds behind it. Another is bipartisan support for the program that has been generated in part through concerted lobbying. Northrop spent $8.7 million in 2022 on lobbying, according to OpenSecrets.org. Among the talking points: the B-21 now provides 8,000 jobs in 40 states, with the promise of more if production ramps up.

Now that the bomber has been unveiled, the next challenge will take place about 25 miles northeast of Plant 42 at Edwards Air Force Base. There, high above the desert, test pilots will push the jet to its aerodynamic limits. How it performs will go a long way toward revealing whether it's the stealthy B-21 program—or just its cost—that's primed to take off. —*With reporting by* ANISHA KOHLI *and* JULIA ZORTHIAN/NEW YORK

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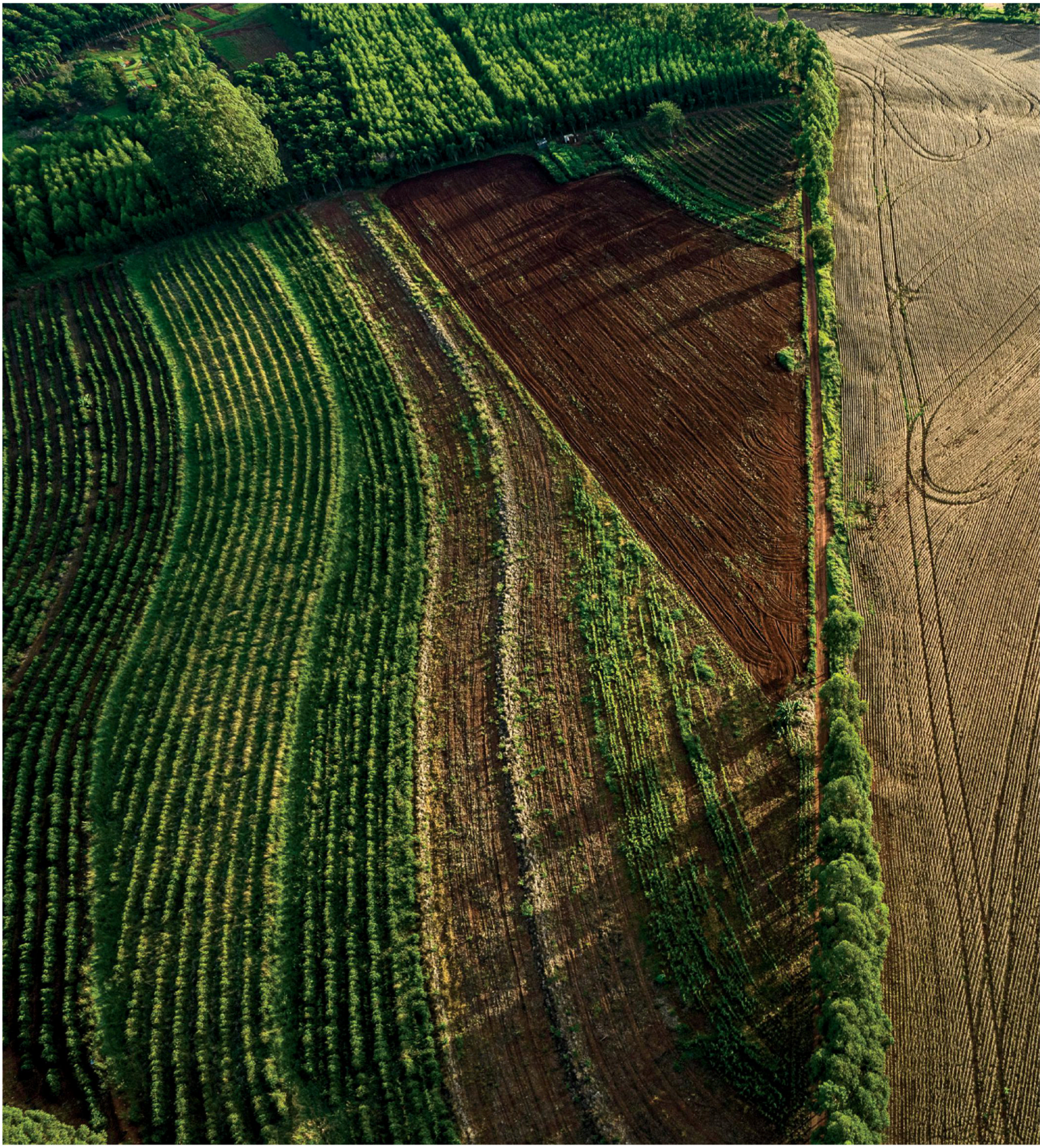
PRETA TERRA'S AGROFORESTRY PROJECT, LEFT, BESIDE A MONOCULTURE FARM



# Food for Forests

## A movement in Brazil is reimagining agriculture to save the industry—and the rain forest

**BY CIARA NUGENT/ TIMBURI, BRAZIL**

IN A FIELD OF BARE RED DIRT IN SÃO Paulo state, Paula Costa is trying to turn back the clock. Five hundred years ago, this land was part of the Mata Atlantica, a dense, diverse rain forest that covered 15% of Brazil. Its trees stretched more than 2,000 miles along the eastern Atlantic coast, and far inland. But today 93% of the forest has been stripped of trees, with much of it turned over to monoculture farming. Costa, a 36-year-old biologist, bangs the ground with her fist: it's hard, the dry soil degraded by the tropical sun.

Yet on this sweltering morning in March 2022, a few green shoots have forced their way through the surface. The rain forest is making a comeback. "These will be jack beans. These are millet. These are radishes," she says, fingering them lovingly. "They're going to bring the soil back to life."

This is not just a reforestation project. It's also a farm. Soon, those green pioneers will be joined by shrubby coffee plants, big-leaved banana trees, and native trees, like sturdy hardwood jatobas, or towering guanandis. As they grow, some plants will pull underground nutrients to the topsoil with their roots, while others provide shade and draw moisture down from the atmosphere. Most of them will produce crops to sell. "Everything has its function," Costa says. She and her partner Valter Ziantoni, a 41-year-old forest engineer, are experts in agroforestry—

PHOTOGRAPHS BY VICTOR MORIYAMA FOR TIME

a method of growing food and other things humans need by mimicking natural ecosystems. In 2021, the couple began planting agroforestry systems on parcels of degraded agricultural land around the town of Timburi. By 2025, they aim to plant a flag for a new way of farming over 2,500 acres of the former Mata Atlantica.

Agroforestry closely resembles the way Indigenous peoples managed the lands that became Brazil for millennia. That was before the 20th century, when leaders of European descent began calling on citizens to "subdue the forest" and replace diverse landscapes with single crops for immediate profit. That attitude became even more entrenched under far-right President Jair Bolsonaro. From 2019 to 2022, he stopped enforcing policies meant to protect the rain forest and Indigenous communities, resulting in a 60% surge in annual deforestation rates.

The irony is that the tree-clearing strategy has thrown Brazilian agriculture into a self-inflicted crisis. The country's rain forests are the key to preserving the wet, stable climate that makes things grow. Trees store water in their roots, and release it when the air around them is hot, helping to cool the landscape and creating "flying rivers" that carry moisture across South America. But from 1985 to 2021, the amount of Brazil covered by native vegetation fell from 76% to 66%, making the region hotter and drier—with grave consequences for farmers. Between June 2021 and June 2022, the worst drought in a century cut Brazil's national agribusiness earnings by 5.5% compared with the previous year. This is no blip: research published in 2021 found that by 2030, rising global temperatures will shift more than half of Brazil's agricultural lands out of their optimal growing conditions, hitting the production and profits of a sector that accounts for 29% of the country's GDP.

More and more farmers see agroforestry as the solution. Growing trees alongside crops is like installing an air conditioner and sprinkler system, or, in the words of one prominent farmer, "planting water." In 2016, Costa and Ziantoni founded Preta Terra, a consultancy—then the first of its kind in Brazil—that helps farmers transition to agroforestry. Funding comes from NGOs, corporate philanthropies, and companies keen to clean up their supply chain, like Nestlé and cosmetics brand Natura. Dozens of similar firms have since popped up, along with startups to finance farms, and major agricultural producers are launching agroforestry pilots as climate concerns impact their production. Public attention is growing too: in 2022, the smash-hit Brazilian soap

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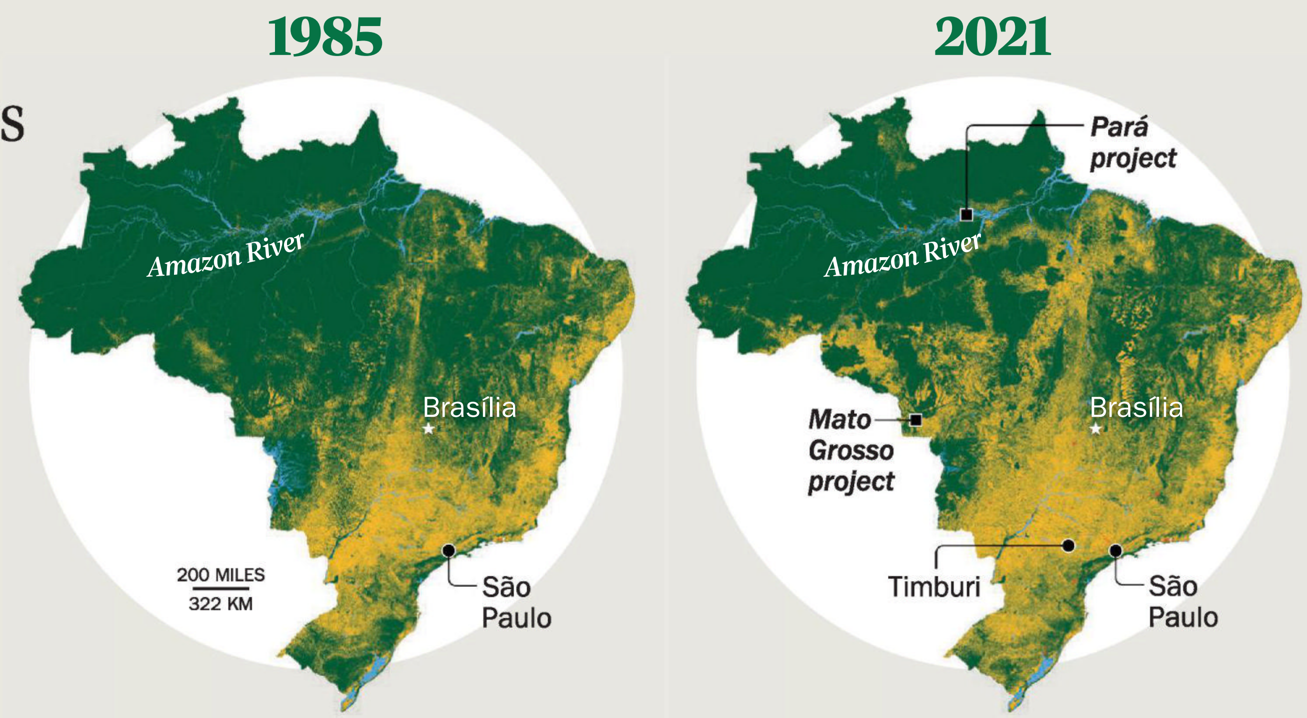
## Brazil's shrinking forests

From 1985 to 2021, Brazil cleared more than 209 million acres of native vegetation, mostly for agriculture. That's a third of all the natural areas lost since 1500.

🟩 **Natural land**

🟨 **Developed land**



CHRIS WILSON FOR TIME / DATA: MAPBIOMAS

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ZIANTONI AND COSTA STARTED PRETA TERRA IN 2016. AT LEFT, ZIANTONI'S BROTHER OBSERVES A DEGRADED AREA

> ‘We want to transform all the world's agriculture into agroforestry.’
>
> **—VALTER ZIANTONI, PRETA TERRA CO-FOUNDER**

opera *Pantanal* featured a young agroforestry enthusiast who persuades his father to overhaul his unsustainable farm.

Agroforestry is gaining popularity throughout the tropics—from Peru to Cameroon to Indonesia—and hundreds of small-scale projects are popping up across Europe and the U.S. In many places, Indigenous communities are leading the way.

Brazil's position at the forefront of that global movement may be about to get a boost: on Jan. 1, Luiz Inácio Lula da Silva, a leftist former President, returned to office after defeating Bolsonaro in October elections. Lula's team has proposed a set of farm loans to encourage a “migration to agriculture that sequesters carbon.” Advocates hope they will benefit agroforestry.

Looking out over the greenery bursting from Timburi's fields, Ziantoni is feeling bullish. “We want our impact on the landscape to be as big as possible,” he says. “We want to transform all the world's agriculture into agroforestry.” There are major hurdles to that. Agroforestry is labor-intensive, and requires a complex diversification of local supply chains. But experts say it could offer agriculture a lifeline in a hotter, drier world. “It's an enormous challenge to change someone's mindset,” says Costa. “But it becomes a lot easier when the status quo stops working.”

**IT WASN'T HARD** for Preta Terra to persuade Nestor Porfirio, a coffee farmer near Timburi, to sign up for its project. His family has tended the same 52 acres of hilly land for more than a century, but conditions are tougher today. “It used to rain reliably every year in December and January. But now we don't know when it's going to come,” he says. If rain doesn't come during that period—flowering season for Porfirio's coffee—his shrubs produce fewer berries. Recent summer temperatures of up to 105°F have also stunted their growth. “If the weather keeps on like this, it's really worrying,” he says.

But Porfirio has noticed that the few noncoffee trees he already has dotted around his land tend to cool the plants around them. On a larger scale, trees' impact can be dramatic: a 2021 study found that in tropical regions, when a significant number of trees are cleared, it can make nearby farmland up to 8.1°F hotter, and affect temperatures almost four miles away.

As a test, Porfirio bought a new plot of land where Costa and Ziantoni have helped design a field in which multiple crops can thrive. He's planting coffee, which grows best in partial shade, alongside lines of native trees that provide timber, guavas, or araçá, an acidic yellow fruit. In between, he's growing cassava as well as pigeon peas, ice cream beans, and moringa trees to keep the soil moist, by sucking in water, and fertile, by bringing the soil's nutrients up from deep underground.

To produce these designs, the couple start with a database of thousands of plant species. The consultancy's 14 staff members also collect information about the local climate, the regional produce market, and what kinds of plants the client prefers to grow. Preta Terra has worked with more than 150 smallholder farmers around the world, some 30 NGO projects, and three large-scale producers in Brazil. Ziantoni says many clients, particularly the Indigenous communities they've worked with in Timburi, Peru, and the Brazilian Amazon, already have a wealth of knowledge about how different plants will affect their land: “What we're trying to do is systematize that local and ancestral knowledge, and make it work for our modern climate challenges.”

Switching to agroforestry is an investment. A 2020 study by the nonprofit WWF looked at farmers who transitioned from soy monoculture to agroforestry in the Amazon rain forest and found planting the new system costs roughly $1,060 to $1,180 per acre—much more than the few hundred dollars per acre it would cost to plant another year's soybeans. The ongoing labor costs are also higher; many plants must be regularly pruned, and it's harder to use machines when they grow dense. Plus, they need to be harvested multiple times a year. But thanks to increased productivity and the additional crops, they earned back around twice what they invested, and recouped setup costs within two years. Preta Terra saw similar results at a 2018 project in Pará state in the northern

▲ WORKERS PLANT TREE SEEDLINGS TO RESTORE THE SOIL AT PRETA TERRA'S TIMBURI AGROFORESTRY PROJECT

Amazon: a cassava farmer switched from using slash-and-burn methods, in which forest trees are burned to make way for crops, to agroforestry. Their projected annual income per acre increased from around $520 to over $2,400, Costa says. And, she points out, "with slash and burn, you can only use that land for a maximum of three years before it stops producing and you have to abandon it." A well-maintained agroforest can produce in perpetuity.

Part of the economic upside lies in the growing consumer demand for eco-friendly products. The reputation of Brazilian agriculture suffered from the accelerating destruction of the Amazon under Bolsonaro. In September 2022, the E.U. voted to ban imports of all deforestation-linked commodities. But the global market for food products considered sustainable—including agroforestry crops, which trap more carbon in the soil than conventional farming—is expanding.

For Cecilia Whately, a midsize avocado farmer near Timburi, all those factors will play into whether she expands her 62-acre pilot with Preta Terra across her entire 370-acre avocado farm. Declining rainfall has cut production by between 30% and 40%, she says. Reducing the amount of land for avocados will initially cut that even further. But she'll gain a more robust crop, and new products—likely fruit—to sell, and potentially a higher price tag at European supermarkets for her sustainable exports. "I'm really hopeful that it works, and if it does, others will copy," she says. "That's what farmers do: we're always looking over the hedge at each other's gardens."

**TRANSITIONING TO AGROFORESTRY** isn't simple. Costa and Ziantoni's goal of transforming global agriculture into agroforestry may be "a valid dream," says Ludmila Rattis, a Brazilian deforestation and agriculture specialist at the Woodwell Climate Research Center. "But we're in the first-step phase. Agroforestry needs to be adapted to the many social and ecological variations that we have in Brazil." For example, in the remote Amazon, where farms are larger and more sparsely staffed than in the southeast, most farmers would struggle to tend an agroforestry system. In other regions, like the dry northeast, ambitious agroforestry projects have failed because of a lack of training for farmers accustomed to monocultures, Rattis says.

Ziantoni agrees that a lack of education is a major obstacle. Preta Terra offers ongoing site visits and technical support to its clients, he says, and the company has launched an academy with online and in-person courses. The aim is to train farmers and attract unemployed people living in urban areas to join the farming workforce.

The biggest challenge, though, is supply chains. Regional agricultural industries tend to focus on just a few products. In Brazil, coffee dominates in the southeast, wheat in the southwest, and soybeans and corn in the central and Amazon states. If a farmer starts growing guavas, there may not be a buyer able to process or sell them for hundreds of miles around. Timburi is unusually lucky: on top of its coffee and avocado markets, it is near ports that take products to Europe, and just a four-hour drive from São Paulo, a city of 22 million. Still, a processing hub for the project's new fruits is needed; Preta Terra is working with local officials and business leaders to set one up. Replacing a large portion of mainstream agriculture with agroforestry would take "a comprehensive reorganization on a national level," Costa says.

The influential forces needed to drive that kind of reorganization may now be getting on board. Big money is being funneled into agroforestry. Cargill—a U.S.-based agribusiness giant that's been repeatedly linked to deforestation in Brazil—is funding the Timburi project along with Swiss investment bank UBS. And in 2022, Preta Terra started work on a nearly 3,000-acre project in Mato Grosso, a large state on the Amazon's southwestern edge, paid for by two investment funds hoping to prove agroforestry's economic viability at scale.

Preta Terra hopes Timburi will show what's possible. "We've got everything in reach—the producers, the market and the consumers—we just need to connect it all," Costa says. "If we can do that across this region, we'll have a success case that can be replicated elsewhere."

That may be complicated, but Whately, the avocado farmer, says there's not much choice. Minas Gerais, the massive state bordering São Paulo, used to be a lush, forested area. "Now parts of it look like savanna. If we don't do anything in the next 10 to 20 years to change, it will be the same here too: everything's going to be a savanna." ▢

> 'We're in the first-step phase.'
>
> —LUDMILA RATTIS, WOODWELL CLIMATE RESEARCH CENTER

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By Angela Haupt

# The Happiness Revival Guide

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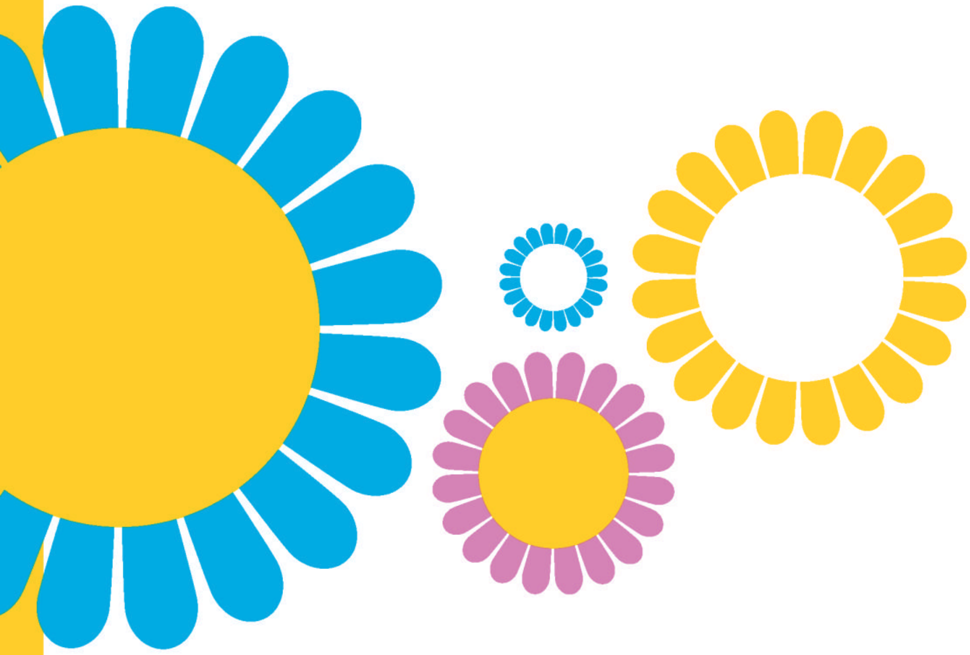

# The American Way of Happiness

## The country has dramatically changed how it defines satisfaction

By Darrin M. McMahon

THE DECLARATION OF INDEPENDENCE PROMISES "life, liberty, and the pursuit of happiness." But if you're lucky enough to live in states like Virginia, New Hampshire, Vermont, New Jersey, Massachusetts, and a number of others, your rights get even better: the 18th century constitutions of all these states spell out not only a right to seek happiness, but also to obtain it.

Of course, blandishments about happiness meant little to enslaved persons or the Indigenous. And there were others—from people struggling at the margins to women trapped in abusive marriages—for whom happiness was inconceivable at the time. We are quick to identify those shortcomings today, pointing out where the founders, for all their farsightedness, were blind. Yet, even as many have worked hard to extend rights more broadly and raise expectations along the way, we have lost sight of some essential aspects of happiness that the founders clearly had in mind.

Consider first that however restricted their views, the founders certainly raised expectations for many, and that was revolutionary in its own right. For most people, happiness was not considered something that could be counted on or controlled. Where life was hard and unpredictable, and the world and its ways uncertain, suffering was the norm. The best one could hope for was to get through it relatively unscathed.

**1776**
Declaration of Independence promises happiness

**1788**
Madison writes about happiness in "Federalist 62"

**1835**
Tocqueville observes that Americans mostly seem sad

Today, if you feel your right to happiness has been denied, you can bring it up with a lawyer. But before you take your case to court, it's worth thinking about how the founders conceived of happiness—and how best to find it for yourself. For in many ways, Americans have been wrestling with that conception ever since the Declaration was signed.

To go back to the source, consider the word *happiness* itself, which in every Indo-European language is cognate with luck: the English happiness, for example, derives from the Old Norse word *happ,* meaning precisely that—luck. Such wisdom was once widely received. "Call no man happy until he is dead," exclaimed Solon, the great Athenian statesman, known for being one of the wisest men of ancient Greece. He and others knew that the gods were capricious and human fortune perilous, even for the luckiest. Christians for their part had traditionally conceived of happiness as a heavenly reward for God's chosen, those who endured their earthly pilgrimage with sanctity and faith. But as for the pilgrimage itself, we should have no illusions: the world was a vale of tears. St. Augustine summed it up: "True happiness … is unattainable in our present life."

That was a belief that the founders, like other groups in the 18th century including enlightened Christians, challenged outright. Neither a vindictive God nor the slings and arrows of outrageous fortune stood in the way of the human pursuit of satisfaction. The world was amenable to our understanding and control, and with foresight and planning we could make our happiness in it.

A benevolent Creator smiled on our efforts to be happy in this life as well as the next.

BUT IF RELIGION sanctioned the pursuit of happiness, it was up to human beings to secure it. That task entailed both a public and a private component. Indeed, the founders

conceived of the "science of government" as what John Adams called "the science of social happiness." In short, just as individuals had a right to pursue happiness, governments had a duty to help provide it.

Adams' longtime friend and political foe James Madison wholeheartedly agreed. The "object of government," he declared in "Federalist No. 62," is the "happiness of the people."

The best way to begin securing that happiness was to start with security itself. The founders often coupled happiness with safety, arguing that individuals had to be secure from lawlessness and anarchy, as well as from tyranny and the predations of the powerful, in order to flourish in their inherent rights to both liberty and the enjoyment of life.

And how best to enjoy? That was largely a private undertaking—to each their own. But the founders still had strong thoughts on the matter. On the one hand, they believed that enjoyment entailed the "acquiring and possessing of property." They never equated property with happiness itself, but they did see the one as a means to the other, and they were right to do so. Not only is property a buffer against misfortune, it is also, in the form of income and wealth, correlated with life satisfaction. Although money can't buy happiness directly, on average you are happier with it than without.

**MODERN RESEARCHERS** have found that money is only one piece of the happiness puzzle. The founders understood this. "Wherein consists the happiness of a rational creature?" Benjamin Franklin asked in 1732 at the Leather Apron Club, the Friday-evening discussion group he led for decades. "In having a sound mind, a healthy body, a sufficiency of the necessaries and conveniences of life, together with the favor of God, and the love of mankind." Note that he says *sufficiency,* not *surfeit.* And to earn God's favor and the love of mankind, one has to think about doing good not only for oneself but also for others—for family, for friends, for society as a whole. Private and public happiness, in effect, go hand in hand.

**The best way to begin securing that happiness was to start with security itself**

The risk of forgetting all of this was there from early on. Already, in the 1830s, the incomparable observer of American democracy, French aristocrat, historian, and philosopher Alexis de Tocqueville, warned in *Democracy in America* that although "no one could work harder to be happy," Americans seemed perpetually restless in the midst of their abundance—and often a little sad. The danger, as he saw it, was that the taste for personal pleasures risked turning Americans inward, setting them at odds with one another and leading them astray.

Attention has been called to this danger many times since, highlighting an abiding tension in American democracy between the pursuit of individual happiness and the happiness of the people. Arguably that tension has never been greater than today, when isolation, inequality, and social fracture feature daily in our headlines and lives. Recent survey data suggests that the amount of time Americans spend with other people, including friends, is falling. It is hard to be social, even on social media, when you are alone.

There are no easy solutions. But it helps to bear in mind that the architects of the nation conceived of private and public happiness together, which is to say that the sound minds, healthy bodies, necessities, and conveniences of our fellow citizens matter along with our own.

If we want to fully exercise our right to not just pursue happiness but to obtain it, we would do well to keep that founding insight in mind.

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*McMahon, a professor of history at Dartmouth College, is the editor of* History and Human Flourishing

Yale psychology professor Laurie Santos teaches that happiness isn't instinctive

# The Happiness Professor Takes Her Own Advice

## Laurie Santos boosts joy to fight burnout

By Jamie Ducharme

A DENTAL EMERGENCY WAS LAURIE SANTOS' wake-up call. It wasn't even her own: One of Santos' students at Yale University needed her sign-off before getting some work done. Instead of feeling sympathy for her student, Santos mostly felt annoyed about the extra paperwork she'd need to complete.

That reaction was unusual and concerning for Santos, a psychologist who teaches Yale's single most popular course, on the science of happiness. She knew that cynicism, irritability, and exhaustion—all of which had been gnawing at her recently—were telltale signs of burnout, a condition that almost 30% of U.S. workers say they experience at least sometimes, according to a 2022 McKinsey Health Institute survey.

Those weren't the only red flags for Santos. Her plate felt too full. Her fuse was shorter. Two years into the pandemic, she was tired of bending the on-campus college experience to fit a remote world. "I take such pride and compassion in working with students, and to feel like that was getting chipped away" was worrisome, Santos says. To avoid sinking into full-on burnout, she decided to take a year off from Yale and temporarily move with her husband to Cambridge, Mass.

"I'm trying to practice what I preach, both because I think that's an authentic way to show, 'See, seriously, this works,'" Santos says. "But also, I want to be happy."

Santos knows what you're probably thinking at this point: Why bother trying to be happy if even the happiness expert is burned out? But that's the wrong takeaway, she insists. The right one is that no one is immune to burnout—especially in times as stressful as these—but we all have the power to change our situations.

PHOTOGRAPH BY HANNAH WHITAKER FOR TIME

Santos teaches her course to more than a thousand Yale students in 2018

KARIN SHEDD/YALE UNIVERSITY

**WHEN SANTOS INTRODUCED** her course, Psychology and the Good Life, in 2018, it quickly became the most popular in Yale's history. More than 1,000 students enrolled, leading to logistical problems including finding a large enough auditorium and dealing with traffic jams in the dining hall as a quarter of undergraduates attempted to grab meals before heading to the same class.

Santos had a hunch the course would have wide appeal. She'd decided to start teaching it after observing Yale's stressed-out students, who were constantly anxious about grades and their futures, seemingly muscling through rather than enjoying college. Staggering statistics around mental-health conditions and suicidal thinking on college campuses cemented her desire to help. "We're not doing our jobs educationally if 60% of students are overwhelmingly anxious," Santos says.

The course's on-campus popularity led Santos to develop a free online version open to anyone, a soon-to-launch curriculum for high schoolers, and the *Happiness Lab* podcast, which has been downloaded more than 90 million times since it launched in 2019. That her scientific approach to happiness has spawned an empire should come as no surprise: fewer than 20% of Americans said they were very happy in a 2022 Ipsos survey, and more than 25% of U.S. adults said they were too stressed to function in a 2022 American Psychological Association poll.

There's no single explanation for the rampant unhappiness, but Santos says some of it goes back to the way humans are wired. Our brains are good at lots of things, but making us happy isn't necessarily one of them. Often, Santos says, the brain is an active saboteur. After a long day, it tells you what you really need is a pint of ice cream and a Netflix binge when, in fact, research shows you'd be better served by calling a friend, getting some exercise, or doing just about anything besides zoning out. Or, your brain convinces you that you need a fancy job, a huge salary, or a blue check mark on Instagram to be happy, when these external accomplishments often bring only fleeting satisfaction. "Natural selection isn't into us being happy," Santos says. "It would [prefer] we drove ourselves into the ground trying to survive, reproduce, and get the most resources. It's not in it for joy."

Santos' class delves into the research around what people think will make them happy (money, status, good grades) vs. what science suggests actually will—namely, things that ensure both physical health (sleep, exercise, nutrition) and mental well-being (community, gratitude, mindfulness, finding meaning in everyday life). Along with traditional papers and quizzes, assignments include keeping a gratitude journal, performing random acts of kindness, meditating, and working out.

The advice on Santos' *Happiness Lab* podcast is likewise practical. One recent episode extolled the benefits of spending money on others, while another focused on the joy of being an unabashed fan—whether of a sports team, a TV show, or something else. The new season, which premiered Jan. 3, is focused on small but meaningful changes everyone can make in their own lives, as a sort of antidote to the unsustainably ambitious resolutions many of us make each New Year's.

People who think these tips don't sound transformative probably haven't tried them yet. Turning them from ideas into practices is the tricky part—and that's why it's worth learning about the science behind happiness, Santos says. "It doesn't change your intuition—my intuitions suck just as much as the next person's—but it can help you remember, when you're in a pinch, 'This is the behavior that's going to work.'"

**JUST LIKE THE REST OF US,** Santos says she often struggles to overcome her brain's faulty impulses. She knows she should get more exercise. She stress-eats cupcakes. She puts off calling friends. She hesitates before donating to charity, imagining the vacation she could take with that money. "My natural state is not necessarily to be happy,"

she says. "I have all the incorrect intuitions." But, crucially, she also knows when to ignore them.

The research suggests this happiness-building approach helps, at least modestly. One 2021 study analyzed the emotional health of U.K. undergraduate students who took a happiness class modeled after Santos' in 2019, vs. those who hadn't yet but planned to take it the following semester. Those who took the happiness class reported considerably higher well-being at the end of the term than the other group. Another study published the same year compared adults who took the free online version of Santos' course with those who took a general psychology class. On average, the happiness of those who took Santos' class increased by about 1 point on a 10-point scale called Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment (PERMA), while those who took the other course went up by about half a point. That's not a night-and-day difference, Santos says, but every little boost helps.

Plus, no one is (or should be) 10-out-of-10 happy all the time, Santos says; it's neither possible nor should it be aspirational. "Negative emotions are really good," she says. "They're useful signals that I think we ignore in the modern day. But we really ignore them at our peril."

Santos knew better than to ignore hers. She says she could have stuck to the status quo and powered through her fatigue and irritability at least a little longer. But eventually, she knew she would hit a breaking point. So she decided to model what she teaches and take a step back to rest, reassess, and—hopefully—return feeling reinvigorated.

A sabbatical, which began in July, allowed Santos to press pause and take stock of her life. She and her husband toyed with becoming traveling "digital nomads" for a year, but instead relocated to Cambridge, not far from where she earned her undergraduate and graduate degrees at Harvard University, because Santos knows a lot of people there—and that a rich social life is key to nursing a burned-out soul. Six months into her break, she spends her days podcasting, going to Monday movie nights with friends, learning to knit, and indulging her love of music by booting up her old PlayStation to play *Guitar Hero*.

To track her progress on sabbatical, Santos journals regularly to reflect on her feelings and takes the PERMA assessment every couple of months. (Since launching her class in 2018, Santos says, she has risen about a point on the scale. She dropped back to baseline at the height of the pandemic, but is now back to her highest recorded level.) Now that she's halfway through her year off, Santos says she can feel herself becoming less physically and emotionally exhausted, more patient, slower to anger. She still has goals for her remaining six months—like squeezing in more physical fitness and travel—but she already feels more like her old self.

**'My natural state is not necessarily to be happy.'**

Of course, a yearlong sabbatical isn't an option for most people—and burnout is often related to unsustainable working conditions that individual employees aren't empowered to change, which can make vacation time more of a Band-Aid than a solution. Even Santos, who had the "incredible privilege" to leave her job for a year, sometimes worries that her burnout will come rushing back as soon as she steps back on campus. She's using her sabbatical to think carefully about where she can scale back after she returns (in addition to her happiness courses and podcast, Santos runs a research lab focused on cognition and a residential college, where undergrads live and socialize, at Yale), and how she can carve out space for the hobbies and routines she's cultivated during her time off. If she feels dread about returning when the time comes, "that would be a good signal that maybe I haven't made as many changes as I need to," she says.

Even in a world where people can't control every factor that influences their happiness, Santos believes we all have agency. Everyone can try to achieve the basics, like getting enough sleep, moving regularly, and spending time with loved ones. Everyone can learn about the brain's tricks and resist the seduction of false friends like social media and excessive consumerism. And everyone can build identities that exist independent of work and status—like friend, partner, hiker, painter, even *Guitar Hero* gamer. For Santos, building new identities has meant intentionally trying things she's bad at, most recently by booking a trip to Florida to take her second-ever surfing lesson. "I was the last girl picked during dodgeball in middle school," Santos says. "It's playing with these identities that are very different than the way I thought about myself before and allowing myself to see what those are like."

All of these steps toward a happier life are attainable. They just go against every instinct we have as humans and Americans. "Naturally, I would never do any of that stuff," Santos admits. But she knows that getting out of your own way is the first step to happiness. ☐

# The Daily Habits of Happiness Experts

## Stop trying to force that frown upside down. Instead, try the joy-building tips experts really use

By Angela Haupt

If anyone knows the secret to happiness, it's surely the people who have dedicated their careers to studying it. The first thing they'll tell you? Being happy all the time isn't a feasible—or even desirable—goal.

"It's not a yellow smiley face," says positive-psychology expert Stella Grizont, founder and CEO of Woopaah, which focuses on workplace well-being. "It's being true to yourself and all the emotions that come up." Grizont was among 18 leading happiness experts surveyed by TIME about their daily habits, and the professional insights they're most likely to apply to their personal lives. The results are illuminating—and could help all of us boost our mood and well-being.

The meaning of happiness is, to an extent, subjective. But nearly every expert we surveyed emphasized the same cocktail of ingredients: a sense of control and autonomy over one's life, being guided by meaning and purpose, and connecting with others. And they largely agreed that happiness can be measured, strengthened, and taught. "The more you notice how happy or how grateful you are, the more it grows," Grizont says.

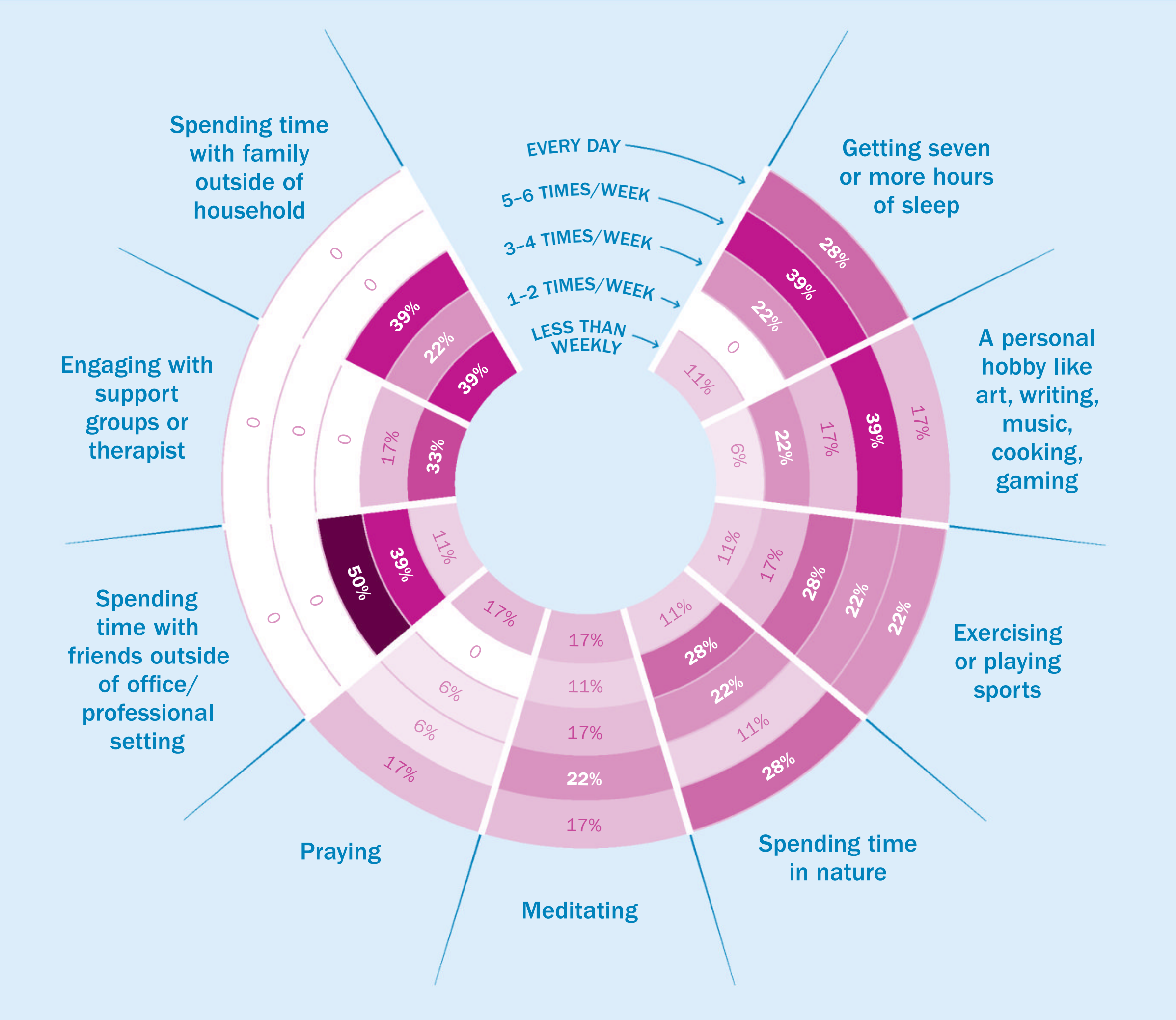
Other questions we asked—like "is happiness a choice?"—sparked disagreement. Most experts landed somewhere in the middle, especially since countless external variables influence mood. "Part of it is a choice, part of it is innate," says Tal Ben-Shahar, co-founder of the online Happiness Studies Academy. "And the part that is a choice is the choice to work hard at it."

Experts were divided on whether happiness can be bought. As author and podcaster Gretchen Rubin put it, "Money can't buy happiness, but it can buy many things that contribute mightily," such as exciting experiences. Spending money on others is also linked to happiness. Still, many of the most reliable ways to increase happiness levels are free, like meditating and practicing compassion, gratitude, and altruism.

One of the most striking lessons centered on the importance of acknowledging negative emotions, rather than suppressing them. The idea that dodging resentment, fear, or anger is healthy is one of the major misconceptions about happiness, they agreed. We err when we assume that focusing on happiness means acting like a "Pollyanna," ignoring "the very real difficulties of life," says Judith T. Moskowitz, a professor of medical social sciences at Northwestern University Feinberg School of Medicine. Instead, the experts said, we should aim to accept and appropriately deal with difficult feelings.

As for what works? The experts we surveyed had a handful of happiness habits in common. Spending time with

**THE SHARE OF EXPERTS SURVEYED WHO SAY THEY ENGAGE IN THESE WEEKLY HAPPINESS HABITS**

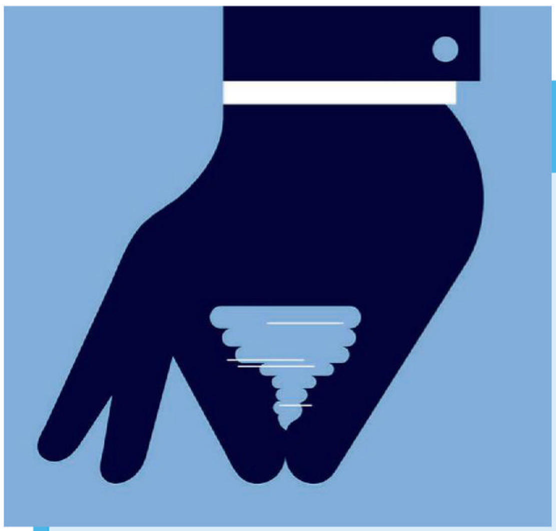


family outside of the house, and with friends in a nonprofessional setting, were big ones: the majority did both at least once a week, and many gathered socially three to four times a week. John Zelenski, a psychology professor at Carleton University, describes social relationships as the chief building blocks of happiness. We all stand to benefit from close friendships, romantic partners, and a "general sense of respect and belonging in a community," he says.

Pursuing hobbies, such as art, music, cooking, or reading, was also universally important. Most respondents carved out space for these interests five to six times a week. Mental well-being has long been linked to sufficient sleep, and our respondents prioritized getting at least seven hours a night. Exercising or playing sports was another shared habit, with respondents saying they fit it in three to six times weekly.

An additional key to unlocking happiness might be basking in nature. More than half of the experts reported doing so at least three times a week. Emiliana Simon-Thomas, science director of the Greater Good Science Center at the University of California, Berkeley, notes that when she's stressed, she takes a walk and "marvel[s] at flowers, plants, birds, insects." She also counts breathing exercises, reading poetry, and watching stand-up comedy among her go-to coping strategies on bad days. Other experts overcome unhelpful thoughts, anxieties, and stressors by revisiting favorite books, listening to upbeat songs, or journaling. Some described asking a friend for a hug or letting it all out with a good cry.

Barbara Fredrickson, a psychology professor at the University of North Carolina at Chapel Hill, frequently revisits her personal definition of happiness: choosing to cultivate moments of meaning and enjoyment. When things look bleak, "I remind myself that whatever I'm facing has been faced by others as well," she says. Being happy is, after all, a universal and ancient pursuit. Take comfort in the knowledge that even people who are steeped in happiness science find it to be an elusive concept at times—and that they don't allow that to deter them from pushing closer toward it.



## Catastrophizing Doesn't Have to Be Catastrophic

By Martin Seligman

When something really bad happens to you, how do you think about your future? Catastrophizers think, Everything will now unravel, and my life will be ruined. This mindset turns out to be an enormous impediment to happiness and, even worse, it is a major risk factor for posttraumatic stress disorder (PTSD).

We found this out by tracking every single one of the 79,438 U.S. Army soldiers who deployed to Iraq or Afghanistan from 2009 to 2013. On their very first day in the Army, they took a psychological questionnaire asking them to rate how they felt about several statements related to pessimism and its most extreme form, catastrophization. For example:

- *"When bad things happen to me, I expect more bad things to happen."*
- *"I have no control over the things that happen to me."*
- *"When I have a physical problem, I am likely to think that it is something very serious."*
- *"When I fail at something, I give up all hope."*

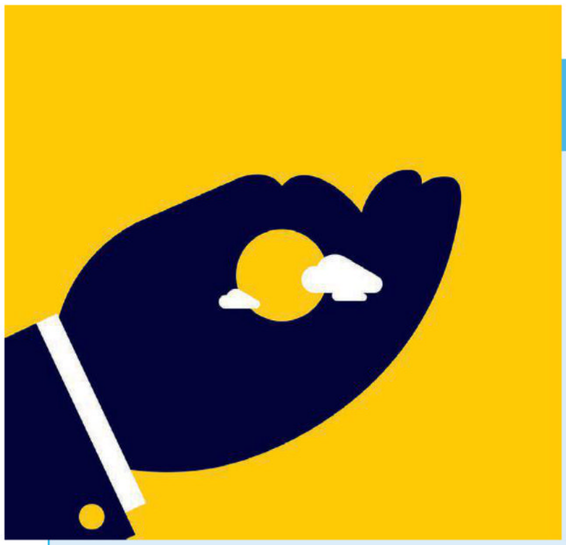
It turns out that we could have used the day-one questionnaire to predict robustly who would develop PTSD. Catastrophizers who faced severe combat stress were almost four times as likely as noncatastrophizers to get PTSD over the course of their service. But even those catastrophizers who faced minimal combat were at greater risk for PTSD than noncatastrophizers, and at all other levels of combat as well.

Combat is near the extreme of the bad events that human beings face. So what is the lesson for the rest of us, the civilian population? If you catastrophize, you will likely suffer more from bad events, and if you have the opposite, optimistic mindset, you will likely be more resilient.

I confess that I am a catastrophizer, but I take my own medicine. I have learned how to combat catastrophization, and you can too. In our upcoming book *Tomorrowmind,* Gabriella Rosen Kellerman and I discuss how you can build this strength. One potent exercise is "putting it in perspective": you begin by imagining a troubling event which has an uncertain, but potentially terrible, explanation. For soldiers, the example was a man missing at night. They start with the worst possible explanation: "He's dead, and it's all my fault." Then, the best possible: "His radio battery died, and he will show up in a few minutes." Finally, the most likely, along with plans to cope with it: "He's probably injured, so we need to retrace our steps, find him, and bring him back." Following this pattern built resilience in soldiers.

When COVID-19 broke out as I neared my 78th birthday, I catastrophized: "I'm in the most vulnerable group. I am sure to die." But then I asked myself about the best outcome: "I am very healthy and will likely escape altogether." And then I focused on the most likely outcome, and I planned for it: "I will isolate for now as best I can, take all the vaccines, and escape with a mild case, if that." There is no way to completely eliminate uncertainty from your life. But this exercise is one way to systematically reduce catastrophization—and, therefore, both maintain happiness despite uncertainty and develop emotional resilience.

*Seligman is a professor at the University of Pennsylvania and the co-author of* Tomorrowmind



## *For Better Well-Being, Just Breathe*

By Emma Seppälä

I was a graduate student in Manhattan having breakfast on my rooftop on Sept. 11, 2001, when I witnessed planes demolish the Twin Towers. For months afterward, I shook with anxiety every morning. Unwilling to medicate, I tried everything else. Mindfulness meditation induced panic attacks. Hot yoga built muscle but did nothing for my anxiety. I went to talks by Buddhist monks and meditation teachers hoping to attain inner peace, to no avail. Finally, I attended a SKY Breath Meditation class, which involves a 20-minute breathing regimen in different postures and rhythms. Though I went in skeptical, I came out calm. Two decades later, I haven't missed a day of my breathing practice, not even when I gave birth.

I've also devoted part of my research career to studying the benefits of breathing for mental health and well-being. Seven years after 9/11, I was working with veterans returning from war with posttraumatic stress disorder (PTSD). Traditional treatments had failed many of them, so my colleagues and I ran a randomized controlled trial to test the effects of SKY breathing (which the nonprofit Art of Living Foundation teaches to the general public and Project Welcome Home Troops offers to veterans and military). Compared with the control group, veterans practicing SKY every day for one week saw their anxiety drop to levels typical of the general population. Even though most did not continue to practice, they maintained the benefits a year later. In fact, many veterans in our study no longer qualified as having PTSD. A larger study at the Palo Alto, Calif., veterans hospital found that SKY had similar benefits to cognitive processing therapy, the current gold-standard PTSD treatment. Veterans who practiced SKY also showed more physiological improvements than those who just had therapy. For people who don't want to revisit or discuss painful memories, or devote the time and costs necessary for therapy, breathing practices are a nice alternative.

Emotions influence your breathing patterns, and changing your breathing can change your emotions. For example, anxiety and anger correspond to an irregular, short, fast breath. Adopting the slower and more regular breathing pattern that corresponds to a calm feeling signals relaxation by activating the vagus nerve, slowing heart rate, easing blood pressure, and settling you down. A simple exercise you can try is to close your eyes and breathe out for twice as long as you breathe in. Do this for five minutes in the morning, before a stressful meeting, or as you transition from work to home.

Breathing holds up compared with other reputable well-being practices. In a 2020 randomized, controlled trial, my Yale colleagues and I assigned stressed undergraduates to either a control group, a group that practiced SKY breathing, one that did mindfulness meditation, or one that learned skills to improve emotional intelligence. SKY showed more statistically significant benefits for mental health and well-being than the other interventions. Perhaps that's because breathing is not mainly a self-awareness practice—it actively relaxes your physiological state.

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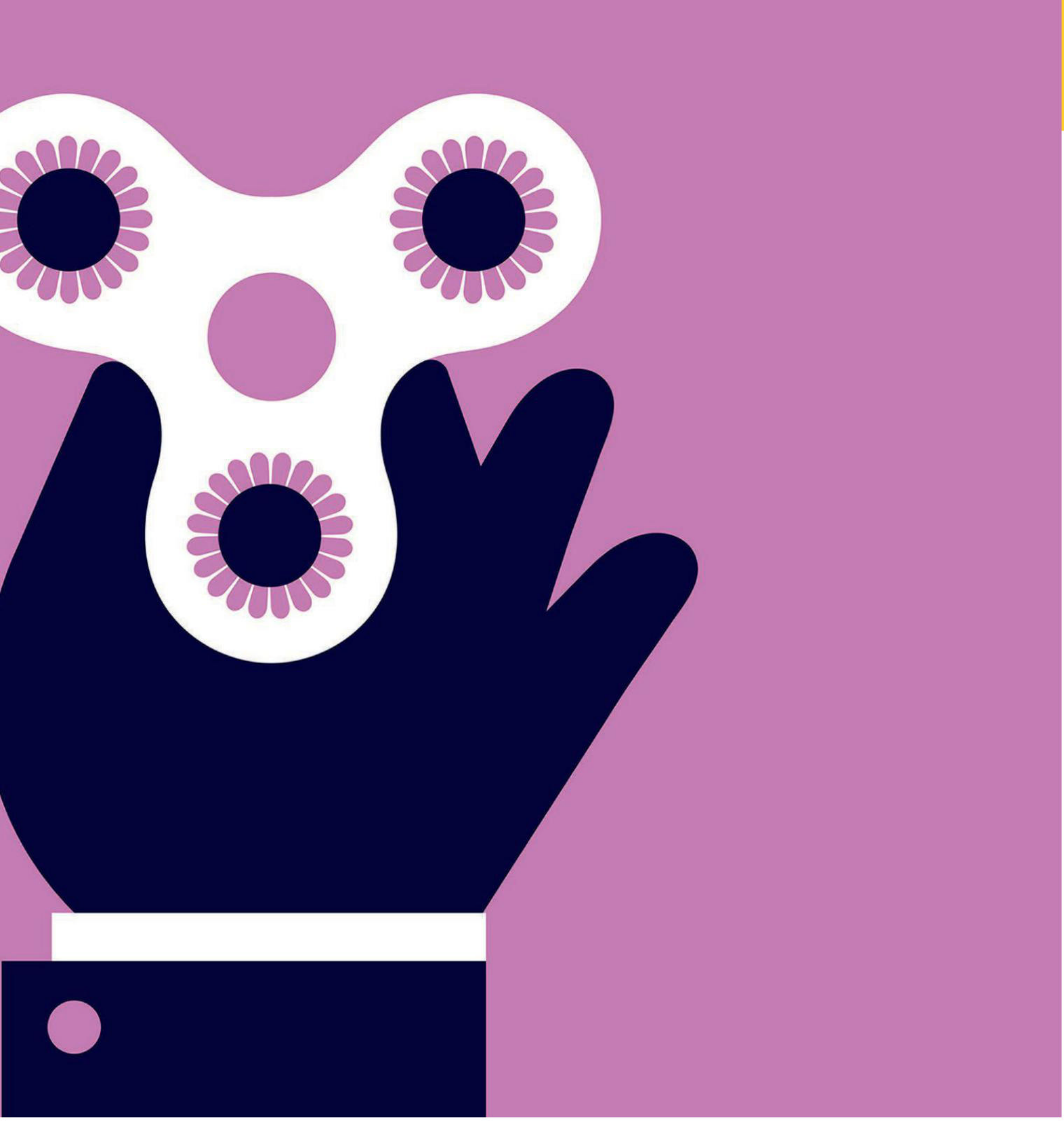
*Seppälä is a faculty member at the Yale School of Management and author of* The Happiness Track

## *Happiness Isn't Pollyannaism. It's a Practice*

By Judith T. Moskowitz

LOOKING AT THE WORLD AROUND US, happiness may seem an unattainable goal. As we move into the fourth year of a pandemic that has killed millions and continues to threaten health and well-being worldwide, compounded by devastating consequences of climate change, spikes in hate crimes, and continued fallout from systemic oppression and inequality, there seems little reason to be happy. Indeed, results from the 2022 annual Stress in America survey indicate one-third of the respondents report that their stress in the face of these challenges is "overwhelming."

Simply ignoring or denying stress, or suppressing your negative emotions and pretending everything is just fine, will not lead to enduring happiness. In most cases, negative emotions are, surprisingly, useful—



they provide important signals about our environment and can guide us to an appropriate response. For example, fear signals that you might be in a potentially dangerous situation and you should try to get away; anger may motivate you to confront an injustice. Similarly, overly focusing on pursuing positive emotions like happiness can paradoxically result in less happiness. Really, too much of any emotion in the wrong context will not serve you well. Noticing, recognizing, and labeling your emotions—both the negative and the positive—is associated with better physical health and emotional well-being.

The key to enduring happiness is not to rid your life of negative emotions; instead, the goal is to also experience positive emotions even in the midst of difficulties. This balance can be particularly challenging when times are dark. In my research, I work with people who are experiencing significant life stress, such as diagnosis with a serious disease or caregiving for a loved one with dementia, and teach them skills to increase the positive emotions of the experience alongside the negative. These skills include noticing and savoring positive events, mindful awareness, nonjudgment, gratitude, and acts of kindness, among others. Our research has demonstrated practicing these skills leads to more happiness, even when life seems especially difficult.

> **‘I will not allow my life’s light to be determined by the darkness around me.’**
> **—SOJOURNER TRUTH**

One of our study participants who is caring for a family member with dementia described to me how she uses positive emotional skills she learned in our program to cope with the stress of caregiving: “There are days I just want to go and jump in my car and drive and never come back. So I think, ‘OK, I’m grateful for this. I have this, I can do this. I’m resourceful.’” In the past, she says, “I would just be so angry sometimes at my situation. Now I’m able to go, ‘OK, I can be angry for two minutes and then, Done! Not all day long.’”

Practicing these skills works for me too. During the pandemic, I have been noticing and savoring the small things more—for example, this morning, before I sat down to write, I took the time to appreciate that even though it is cold here in Chicago, the sun is out, a welcome change from the past week or so of clouds. The sun shining is not going to change any of the really big problems in the world right now, but by taking a moment to notice, I get an additional hit of positive emotion and feel better equipped to cope with whatever challenges come up in my day.

In 1867, abolitionist, feminist, and human-rights crusader Sojourner Truth captured this philosophy well: “Life is a hard battle anyway. If we laugh and sing a little as we fight the good fight of freedom, it makes it all go easier. I will not allow my life’s light to be determined by the darkness around me.” Rather than a laser focus on achieving happiness in the face of life’s big and small challenges, follow Sojourner Truth’s advice and find the small things you can do to bring more moments of happiness into each day, while still acknowledging that life can be a hard battle. Donate to an organization that feeds the hungry. Let a coworker know that you are grateful for their help on a big project. Take a few moments to savor your delicious morning coffee or even just look at pictures of puppies and kittens on the internet. Intentionally seek out the moments of laughter and song that will allow your life’s light to shine, even when the world seems darkest. That’s the definition of happiness.

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*Moskowitz is a professor at Northwestern University and director of research at the Osher Center for Integrative Health*

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# EXPLORATIONS

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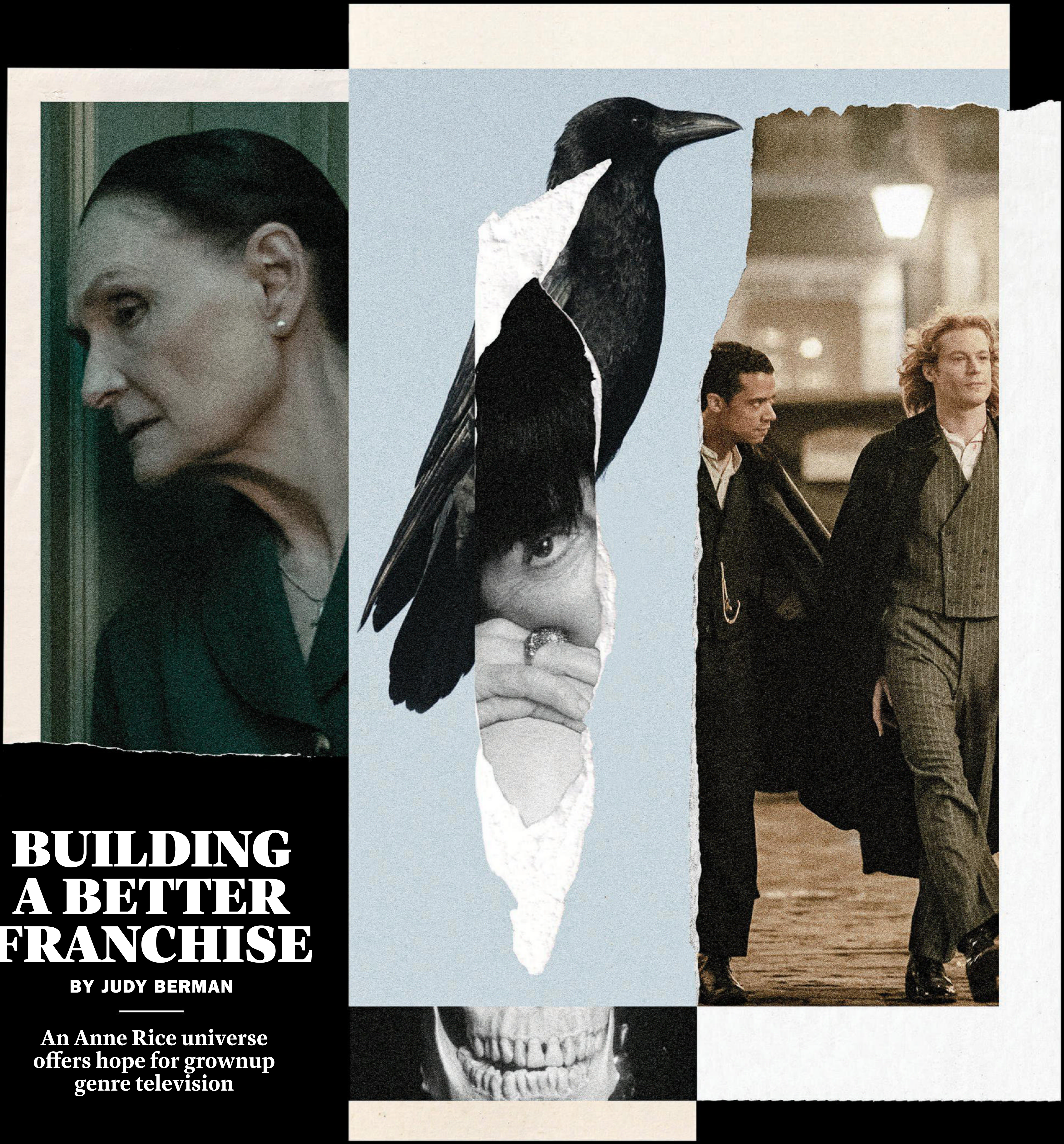
# Time Off



## BUILDING A BETTER FRANCHISE

BY JUDY BERMAN

An Anne Rice universe offers hope for grownup genre television

INSIDE

**GOOD RIDDANCE TO THE GOLDEN GLOBES**

**CHRISTIAN BALE ANCHORS A WINTRY WHODUNIT**

**ALLISON WILLIAMS ON THE PLEASURES OF HORROR**

PHOTO-ILLUSTRATION BY VANESSA SABA FOR TIME

WITCHCRAFT RULES THE WORLD IN *Anne Rice's Mayfair Witches,* but the show is most electrifying when it immerses us in the everyday magic of New Orleans. In one mesmerizing scene, a young neurosurgeon named Rowan Mayfair (Alexandra Daddario) is wandering the nighttime streets during her first visit to the city when she nearly collides with a horse-drawn hearse bearing the photo of a smiling, white-haired man. Musicians and stilt walkers dressed as skeletons trail behind. Mourning has never looked so cathartic.

"No one is ever gone," a stranger tells Rowan. "Only separated for a minute." Reluctantly, Rowan drinks the test tube of unidentified liquid the woman buys her off a sidewalk shot girl. The second line is a ghostly blur as they join the revelers in the graveyard. This spectral wake weaves its way through the series' third episode the way a procession might weave through the city. Rowan has flown in from San Francisco after losing her adoptive mother, discovering her own ability to kill people with her mind, and deciding to search for her biological relatives, New Orleans' powerful Mayfair clan. In neither the city nor the family is the line between human and supernatural a bright one. "I will never forget that night of shooting," says showrunner Esta Spalding. "You enter the land of the dead in this cemetery in the middle of the Garden District, right near Anne Rice's house where she wrote *The Witching Hour,*" the first novel in the trilogy from which AMC's *Mayfair Witches* was adapted. "That was the one where I was like, 'We're doing this. We're making this thing.'"

The thing Spalding and co-creator Michelle Ashford have made is a multilayered drama of ideas hiding under the umbrella of streaming-era TV's favorite format: the genre franchise. The second title, after last fall's acclaimed *Interview With the Vampire,* in AMC's Anne Rice Immortal Universe, *Mayfair Witches* is a fantasy-horror series based on valuable intellectual property; each of Rice's *Lives of the Mayfair Witches* books spent months on the New York *Times* best-seller list in the 1990s. Yet the show is so meticulously constructed around complex characters and thematically rich scripts that you'd never confuse it with expensive but half-hearted IP fare like *The Book of Boba Fett,* Netflix's *The Witcher* universe, or the diminishing returns of AMC's own *The Walking Dead* franchise. Just as *Interview* expanded upon themes of sexuality, race, and family, Spalding and Ashford dig into Rice's ideas about women's free will and self-definition, yielding something more ambivalent than the standard female-empowerment narrative. Where many genre franchises hinge on simplistic notions of good vs. evil, the ARIU thrives in the shades of gray.

Mayfair Witches, *left, and* Interview With the Vampire *spotlight distinctive characters*

It's a canny approach for AMC—which faced a daunting 16% year-over-year revenue drop in the third quarter of 2022—to take in an oversaturated TV landscape where franchise-friendly IP is king and the transition to subscription-based streaming has yet to compensate for earnings lost during a mass exodus from cable. The network made its name with sophisticated, late-2000s linear dramas like *Mad Men* and *Breaking Bad,* and its parent company AMC Networks prides itself on making shows for adults across its portfolio of cable channels and boutique streamers including IFC, Acorn, and Shudder. Dan McDermott, the company's president of entertainment and AMC Studios, envisions the Rice universe growing to up to seven titles.

For a relatively small player in an industry controlled by giants like Disney and Netflix, this is a big bet. But beyond the business implications, it offers hope to grownup viewers looking for something artfully made to watch now that *Better Call Saul* is over, and to audiences who fear that the IP takeover that has crowded out original films on the big screen is threatening to do the same to the small one. The ARIU is a crucial test of whether it's possible to build a better TV franchise.

**LIKE SO MANY** paradigm shifts, the franchising of TV happened slowly, then all at once. Television is, of course, a business, and businesses thrive by building on lucrative products—hence the enduring popularity of spin-offs. When *All in the Family* became a generation-defining smash, CBS would've been foolish not to spin off *The Jeffersons, Maude,* and more. And so, by the mid-1970s, a stand-alone family sitcom became a sort of Norman Lear Extended Universe.

Until the streaming era, this is the way most TV franchises took root. Individual spin-offs could, like *Cheers* sequel *Frasier,* become big hits

*Time Off is reported by Leslie Dickstein and Mariah Espada*

PREVIOUS SPREAD SOURCE PHOTOS: GETTY IMAGES; AMC (2); THIS SPREAD: AMC (2)

but didn't quite signify the creation of a franchise as we know them today. The major franchises of the 2000s were broadcast procedurals and reality fare. Why not expand the hugely popular Las Vegas–based *CSI* to Miami, New York, and D.C.? The same logic applied to Bravo's *Real Housewives* universe.

The predominant TV franchise of today is something different, born of a hybrid broadcast, cable, and streaming ecosystem that produces thousands of titles each year. With so many products fighting to break through the noise, a franchise offers platforms the opportunity to hold fans' attention once they've done the hard work of attracting it—particularly crucial for subscription-based streamers.

And so the contemporary franchise tends to be genre-forward and based on IP with widespread name recognition or salacious true stories. It's Ryan Murphy's *American Horror Story, American Crime Story,* and soon *American Sports Story* and *American Love Story.* It's *The Walking Dead* and all its zombie spin-offs. Disney's entrance into the streaming market in 2019 intensified the trend; now Marvel, *Star Wars, Lord of the Rings,* and other blockbuster factories pump out as much, if not more, content for the living room as the cinema. *Star Trek* has produced as many series in the past five years, on CBS All Access and Paramount+, as it did in five decades.

The Anne Rice project, which began when AMC bought the rights to 18 of the author's books in 2020, is a product of the same industry stressors. Yet its makers have taken on what is in many ways a bigger challenge than Marvel and DC's dozens of TV offerings, which often seem sanitized or dumbed down to maximize viewership. Led by Mark Johnson, executive producer of *Breaking Bad, Better Call Saul,* and *Halt and Catch Fire,* they are consciously trying to make what McDermott calls TV that "says something about the world we live in." For Spalding, that comes down to telling stories where "the characters are broken, sophisticated adults with psychology"—a Rowan Mayfair, for example, who's every bit as enigmatic as Don Draper.

> 'The characters are adults with psychology.'
>
> ESTA SPALDING, SHOWRUNNER

**THIS IS THE KIND OF TALK** that makes critics like me swoon. In truth, we can't know this early in their runs whether any ARIU show will achieve such lofty aims. But in their debut seasons, *Mayfair* (which premieres Jan. 8; I've seen five out of eight episodes) and *Interview* strike the right balance between grounded characters, thought-provoking themes, and supernatural thrills. And they do it largely by deprioritizing typical genre-franchise preoccupations like canon and combat, in favor of the more elemental aspects of great audiovisual storytelling—writing, acting, directing, production design, music.

None of the core ARIU team comes from a genre background. Spalding was the showrunner of Showtime's capitalism-critiquing *On Becoming a God in South Florida;* she and Ashford worked together on the historical drama *Masters of Sex. Interview* creator Rolin Jones made his name as a writer on *Weeds, Friday Night Lights,* and *Boardwalk Empire.* "At first blush, none of us is the obvious person to be involved in an Anne Rice adaptation," says Johnson. But as they read the books, each found the inspiration they sought.

For Jones, the baroque *Interview* was a chance "to make something big and bold and grand" and "to get into my inner *Clockwork Orange, Deadwood*—write some language." Once you get beyond the blood feasts, he notes, Rice's "book is talking about the thing that winds everyone's clock: mortality. We do everything because we're going to die." Spalding recalls that she'd already been turning to the horror genre, "partly because the world has gotten so strange and horrifying that horror is a response to it that I understand." *Mayfair,* with its particular focus on women's bodily autonomy and witches as not just monsters, but healers, "seemed like a way to respond to the experience of being a woman right now in America."

Yet, in an era of endless circular discourse about the politics of representation, neither show is precious about its characters who are underestimated, if not outright oppressed, because of their identity. Medicine may be Rowan's calling, but she has to placate the field's many male gatekeepers daily. The discovery that her lineage might unlock supernatural abilities that shift the balance of power in her favor is obviously compelling to her. It was this moral ambiguity that drew Daddario to the role. "She's really delighted by some things she shouldn't be delighted by," the *White Lotus* alum notes. A heroine susceptible to temptation is more fascinating, to play and watch, than a righteous Strong Female Superhero. Likewise, only actors with the chemistry of Jacob Anderson and Sam Reid, who play *Interview*'s central couple, could make the passion between immortal lovers feuding over the ethics of bloodsucking feel real enough to invest in.

MAYFAIR WITCHES

*The* Mayfair Witches *crew on location in New Orleans*

Authenticity, insofar as it's possible for supernatural stories, is also paramount to the look and feel of the ARIU. *Mayfair* boasts century-spanning costumes from *Mad Men* designer Janie Bryant; *Interview* is soundtracked by *The Green Knight* composer Daniel Hart's elegant, ominous score. But the key ingredient in the franchise's mise-en-scène is Rice's beloved hometown itself, with its singular Creole architecture, vibrant cultural life, and local crew members who cherished her work. "I don't think there was any question that we had to shoot in New Orleans," says Johnson. Such attention to the texture of real places has become increasingly rare in genre franchises, which often shoot against computer-generated backdrops in virtual production studios like Disney's Infinity Stage.

While *Mayfair* was in production, Spalding often walked the eight blocks from where she was staying to the house where Rice, who died in December 2021, lived. "There were all these crows that were always landing at twilight on the branches and the wires around the house," she recalls. "I'd be like, 'I hope we're doing OK by you. If it's all right, crows, please take the message.' And then, of course, crows slowly crept into the show."

**'I don't think there was any question that we had to shoot in New Orleans.'**

**MARK JOHNSON,**
EXECUTIVE PRODUCER

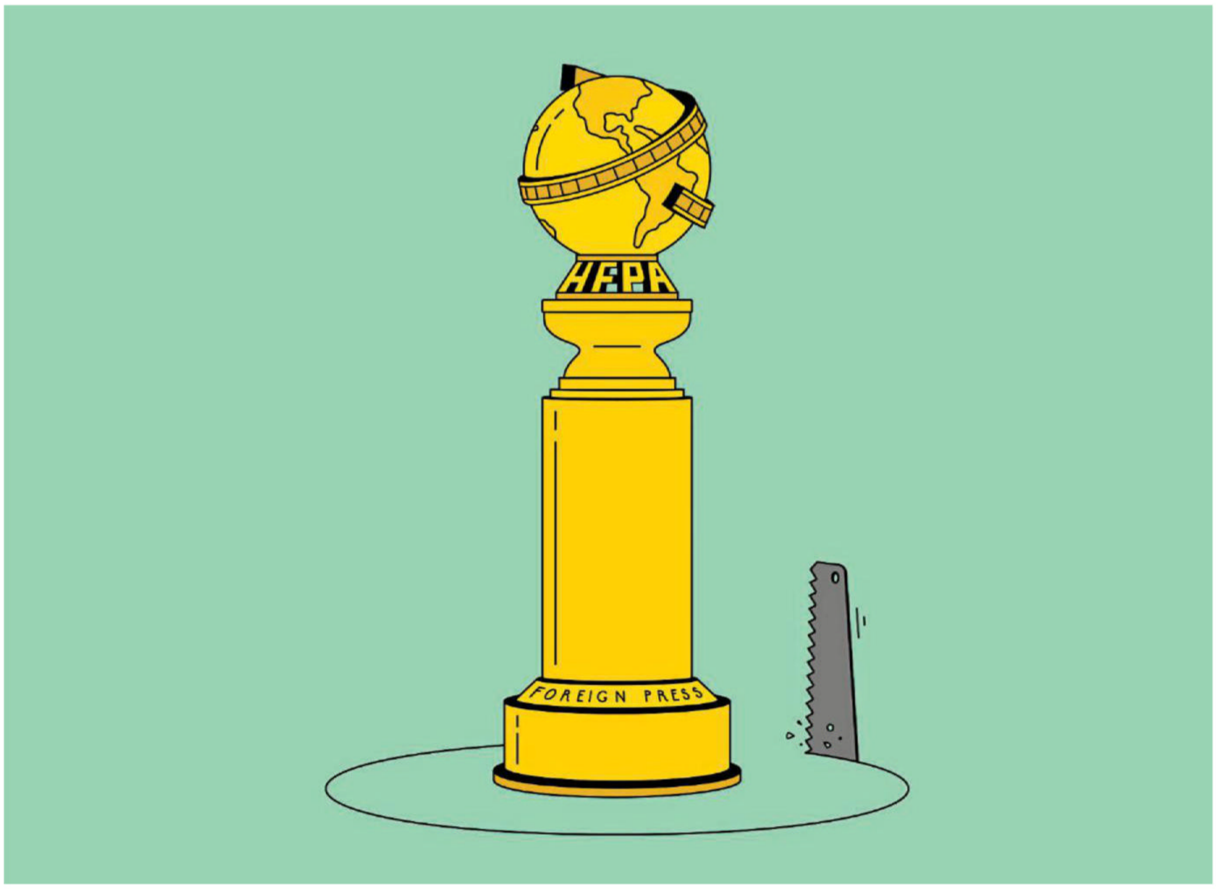
***MAYFAIR* AND *INTERVIEW*** are triumphs of talent and care. But quality doesn't guarantee longevity on TV; for every *Saul,* there's a wonderfully odd *Lodge 49,* cut short because of low ratings. AMC Networks has a lot riding on the ARIU, which McDermott has called "the biggest venture we've ever embarked upon from the ground up." It's a transitional moment for AMC, which recently lost two flagship shows, *Saul* and *The Walking Dead,* and is in the midst of executive turnover with layoffs and budget cuts on the horizon.

Last year was brutal for the streaming wars, as platforms' massive content spends threw balance sheets further into the red and drove leadership shake-ups, from Netflix to Disney to Warner Bros. Discovery. It's the kind of environment that sends executives scrambling to find new formulas. The nontraditional—or, if you must, prestige—franchise is one such idea, with the potential to please creatives, viewers, and bean counters alike. And it's starting to catch on. Less ambitious than its antecedent but also more popular than *Interview, House of the Dragon* put ur-prestige fantasy brand *Game of Thrones* on the franchise track. Starz, which is also home to the thriving crime drama franchise *Power,* recently renewed *The Serpent Queen,* an irreverent take on Catherine de' Medici that extends its queens-and-princesses franchise. Amazon is pouring its biggest budgets this side of *Rings of Power* into the troubled production of *Citadel,* meant to fuel multilingual spin-offs.

The ARIU is not alone in its quest to remake franchise TV, but I've never seen a TV franchise come out of the gate quite as strong, delivering two thoroughly well-made shows in three months. It's not just critics cheering, either. The hashtag #interviewwiththevampire has more than 250 million views on TikTok; on video chat, Jones shows me an office wall plastered with the kind of fan art that's still circulating on social media two months after the Season 1 finale. And early audience metrics bode well. AMC reported that *Interview* had the most-watched debut in the history of its AMC+ streaming service, by a factor of three. Johnson says that three more ARIU titles are in development.

If *Mayfair* finds its audience—and based in part on the sleeper-hit success of AMC Networks' British import *A Discovery of Witches,* there's reason to believe it will—then the Anne Rice franchise could become a shining example of how to make top-tier television in a suboptimal market. Of course, even the best IP-based genre franchise can't obviate the need for great stories that are original to the TV medium. "I don't want to live in a world where we can't discover the next Matthew Weiner or Vince Gilligan," McDermott says. There's no downside to a business model in which a reliably popular, high-quality franchise subsidizes riskier projects. And as a certain surgeon awakening to her power as a witch discovers, the necessary work of adapting in order to survive can bring unexpected pleasures. □

AMC



ESSAY

# What if they gave a Golden Globes and nobody watched?

**BY JUDY BERMAN**

THE GOLDEN GLOBES WILL RETURN TO TV ON JAN. 10, FOR the first time since 2021, and this year's 80th-anniversary edition has a lot going for it. Among the most-nominated titles are many wonderful movies *(The Banshees of Inisherin, Everything Everywhere All at Once, Tár)* and shows *(Abbott Elementary, Severance, The White Lotus)*. The relatively diverse list of individual nominees includes such deserving performers as Angela Bassett, Diego Luna, Michelle Yeoh, Quinta Brunson, and *The Inspection* star Jeremy Pope. Most promising, this year's shindig will be hosted by Jerrod Carmichael, the thoughtful and hilarious comedian whose confessional HBO special *Rothaniel* was 2022's most acclaimed hour of stand-up.

> *As viewers, we're free to vote with our remotes*

It's all exciting enough to make the casual awards-show viewer forget why NBC took a year off from airing the Globes, so kudos to the organizers on that achievement. But before you settle in for another night of tipsy celebrity speeches, it's worth considering not just whether the Globes have improved as an institution over the past two years, but also whether they ever merited our attention—or their outsize stature within the industry—in the first place.

To review: Presented by the Hollywood Foreign Press Association, whose members are all ostensibly entertainment journalists working for overseas outlets, the Globes had already faced decades' worth of criticism for their small, inscrutable voting body and apparent susceptibility to influence campaigns. Then, a week before the 2021 ceremony, the L.A. *Times* published an exposé alleging that members' ethical conflicts ran deeper than previously thought. Days later, the post-#MeToo Hollywood watchdog Time's Up slammed the HFPA—which had a reputation for snubbing self-evidently great work from Black artists—for having "not a single Black member out of 87." The resulting cascade of controversy led to an industry boycott the following year. Tom Cruise made a big show of returning his Globes. And whether out of solidarity or simply because the A-list was staying home anyway, NBC declined to air the ceremony.

**TO ITS CREDIT,** but surely also to ensure its survival, the HFPA has made several reforms since then. Out of 97 current members, six are Black, and the addition of 103 nonmember voters has further improved the Globes' representation of marginalized groups. A document distributed to the press on the same day that 2023 nominations were announced, Dec. 12, touted the HFPA's recent work with the NAACP, code of conduct for members, and other "new policies to eliminate ethical conflicts."

Maybe these adjustments are more than just reputation-laundering crisis PR. Maybe they're genuinely as earnest and meaningful as the organization claims. Certainly, while the level of star power on the red carpet remains to be seen, rhapsodic social media posts from high-profile nominees like Rihanna, A24, and Selena Gomez suggest that Hollywood is already warming back up to the Globes. Of course, all of these parties have a vested interest in the awards-industrial complex.

But as viewers, we're free to vote with our remotes. It's ultimately up to us whether we want a nominally more diverse version of the tiny, disgraced HFPA to continue, by virtue of being the first major ceremony on the calendar, setting the tone for an awards season whose winners help determine which movies and shows get made, and who gets to make them. Even the motion-picture and television academies, for all their flaws, are more representative of their respective fields and thus better qualified to take stock of any given year in entertainment. The Globes, at their very best, are a waste of a perfectly good evening. If millions of us stop tuning in, amid plummeting interest in awards shows in general, then NBC might once again be persuaded to pull the plug. □

ILLUSTRATION BY ALBERT TERCERO FOR TIME

‹ *Bale as Landor, a solver of grisly crimes*

REVIEW

# A young poet helps crack a frosty murder mystery

**BY STEPHANIE ZACHAREK**

> **The whole thing is about as cozy as a blanket of thorns**

SOMETIMES, IN THE WINTER, YOU JUST WANT A LITTLE *hygge,* that sense of cozy well-being signified by balsam-scented candles, puffy coverlets, and lumpy sock knitting. For your other, darker moods, there's Scott Cooper's *The Pale Blue Eye,* a chilly murder mystery set at West Point in 1830 in which a taciturn local detective, Christian Bale's Augustus Landor, enlists the help of a young cadet in solving a rash of homicides at the school. The cadet, played by English actor Harry Melling, is a hunched, pale lad whose sentences unspool in loquacious curlicues. He seems out of place at a military academy, and pretty much out of place anywhere practicality and speed might be valued. But he already knows he's a poet, and though he hasn't yet made a name for himself, the world will eventually recognize him as Edgar Allan Poe.

Like a fire made with mildly damp kindling, *The Pale Blue Eye*—adapted from Louis Bayard's 2003 novel of the same name—takes a while to get going. Maybe, in truth, it never really does get going. But the story's stately pace is part of the attraction, and perhaps key to its pleasurably somber tone. Landor lives alone in a book-filled cottage somewhere along the Hudson River; later we'll learn that he's nursing a secret sorrow, the loss of a daughter. He's drawn out of his lair, reluctantly, when a West Point cadet's body is found hanging from a tree. The death could be a suicide—except the young man's heart has been excised from his body with bleak precision, a grisly detail the school's in-house physician (and, when necessary, coroner), Toby Jones' Dr. Marquis, reveals with a flourish. Landor, knowing he needs to infiltrate the students' clannish ranks, befriends the skittish but observant youngster Poe to help suss out the killer. The investigation leads them down a path of black magic, and of romance: our youthful, morbid poet goes all knock-kneed for Dr. Marquis' daughter, the gorgeously consumptive Lea (Lucy Boynton). Bundled in fetching velvet tones of teal and chocolate, she coughs daintily as she accompanies Poe on a pleasantly brooding cemetery walk, where they speak of death and other disquieting things. No wonder he's a goner.

**BOTH LANDOR AND POE** are outsiders within the rigid confines of West Point. Landor is there to do a job, though he has little but contempt for the two puffed-up officers in charge of the joint, Simon McBurney's Captain Hitchcock and Timothy Spall's Superintendent Thayer, who just want to get the whole thing wrapped up quickly to avoid scandal. And Poe, born in Boston but, thanks to his Virginia upbringing, speaking with a soft, Southern lilt, is far too courtly to fit in with his coarse classmates. (In a scene where he infiltrates a secret student lair, rife with drinking and card playing, he recites a dirty limerick at the urging of one of his roguish compatriots, the words as foreign on his tongue as a Martian language.) Though Landor and Poe are united in their efforts to smoke out the murderer, there's mistrust between them too. Landor clearly finds Poe just plain odd, though he sees immediately how his sensitive young helper is a cut above the pedigreed ruffians who flock to this esteemed school. And Poe is touchingly eager to help, though he picks up on Landor's secretiveness. These two circle each other warily at times, though both realize they're the smartest oddballs in the room. Everyone else at West Point is just a big, macho square.

Set in a world of pale, misty forests and cottages that glow from within—less in a welcoming way than a sinister one—*The Pale Blue Eye,* which comes to Netflix on Jan. 6, is a whodunit reinvented as an early-mid-19th century mood board. Shot by Masanobu Takayanagi, with production design by Stefania Cella, it's got candlelit style to burn. Cooper—whose movies include the 2009 musician-on-the-skids romance *Crazy Heart* and 2017's Wild West drama *Hostiles*—seems to have taken great pleasure in building the story's shifting atmospherics layer by layer, like late-winter strata of snow. Even Bale's face, gaunt and shaggily bearded, looks like a daguerreotype, the sort of thing you might come across at a flea market, tucked away in a velvet case of secrets. And Melling, with his artificially high forehead and ball-bearing stare, is a weirdly convincing Poe: this is a face that doesn't yet know it needs a mustache, badly.

The movie also features a large cast of frostily amusing supporting players, though some, like the always charming Charlotte Gainsbourg—as a barmaid who sometimes shares Landor's bed—could have a little more to do. Robert Duvall shows up as a crotchety local expert on the occult. (He goes by the delightful if somewhat incongruous name Jean Pepe.) As Dr. Marquis, a model of propriety who just may be hiding a sinister streak, Jones gets to wear an assortment of richly patterned silk waistcoats befitting a physician's status. Best of all is *X-Files* legend Gillian Anderson, who plays his gelid, appraising wife, a doyenne of distinction who favors enormous, quivering bonnets and seriously inflated leg-o'-mutton sleeves. When she quizzes Landor about his own wife, not long deceased, her voice streams out in a low, guttural trill, like an animal on the hunt. The whole thing is about as cozy as a blanket of thorns—but then, you don't go to Poe for a good cuddle, and *The Pale Blue Eye* gets that. This is one foreboding snow globe of a movie. □

THE PALE BLUE EYE: NETFLIX; ALLISON WILLIAMS: ALBERTO E. RODRIGUEZ—GETTY IMAGES

QUICK TALK

## Allison Williams keeps coming back to scare us

The *Girls* and *Get Out* actor is an executive producer and the star of *M3GAN* (Jan. 6), a horror movie about a lifelike AI doll

**Many people got to know you on *Girls,* but since *Get Out,* you've racked up an impressive list of horror titles. What attracts you to the genre?** For years, I was looking for things that took me outside the realm of Marnie because to me what defined a good career was being able to play a variety of people. [After] *Get Out,* I learned to love playing with the idea of my identity, the expectations people have once they see me onscreen.

**How does horror allow you to do that?** I've enjoyed the amount to which I can play against the roles that I've played before, and have them in conversation with each other. I've loved being able to explore very serious subject matter in some of these movies. I get extremely scared so it's not from a place of lifelong passion for being scared. It's just from a purely creative standpoint that I find them extraordinarily appealing.

*Williams embraces a shift to horror*

**What was it like acting opposite M3gan, a doll who was a mix of animatronics, CGI, puppeteering, and human stunt double?** Every version was so scary that it was not hard to inject fear into my performance. Being that close to the animatronic mechanism was helpful in preserving the sense that [my character] understands that it's an inanimate object, but there's still that part of her that thinks, What if I walk out of the room and it starts walking all by itself?

**You spoke with roboticists and AI experts for the film. What was their take?** There's a movie roughly every six months that has to do with the perils of AI. [They] were quick to point out that M3gan's mobility is the aspect of her development that we're the farthest from. It was fascinating to have conversations where people were like, "It's exaggerated, but you're not very far off the mark."

**M3gan has become quite the social media influencer, inspiring memes and TikTok dances. Why has the internet taken such a liking to her?** I think she's just iconic. She takes the idea of being a fierce protective bestie to its extreme. She wins you over. It's impossible not to get caught in her vortex.

**From Chucky to Annabelle, dolls are a horror-movie staple. Why are they so unsettling?** I think it's their potential for menace despite their innocent packaging. There's something extremely creepy about the eyelid mechanism, knowing that even when you close your eyes to go to sleep, their eyes are open. —*Shannon Carlin*

# Dr. Anthony Fauci reflects on his career, battling pathogens and politics, and the lessons he's learned

**On Dec. 31, you stepped down as head of the National Institute of Allergy and Infectious Diseases (NIAID) and chief medical adviser to President Biden. But you aren't retiring. What are you calling the next stage in your career?** My wife jokingly calls it a rewiring. I would like to lecture and write, and advise to the extent that my advice is solicited. I have 54 years of experience as a scientist at the National Institutes of Health and 38 years running what everyone agrees is the largest and most important infectious-disease research institution in the world. And the privilege of advising seven Presidents of the United States over almost 40 years.

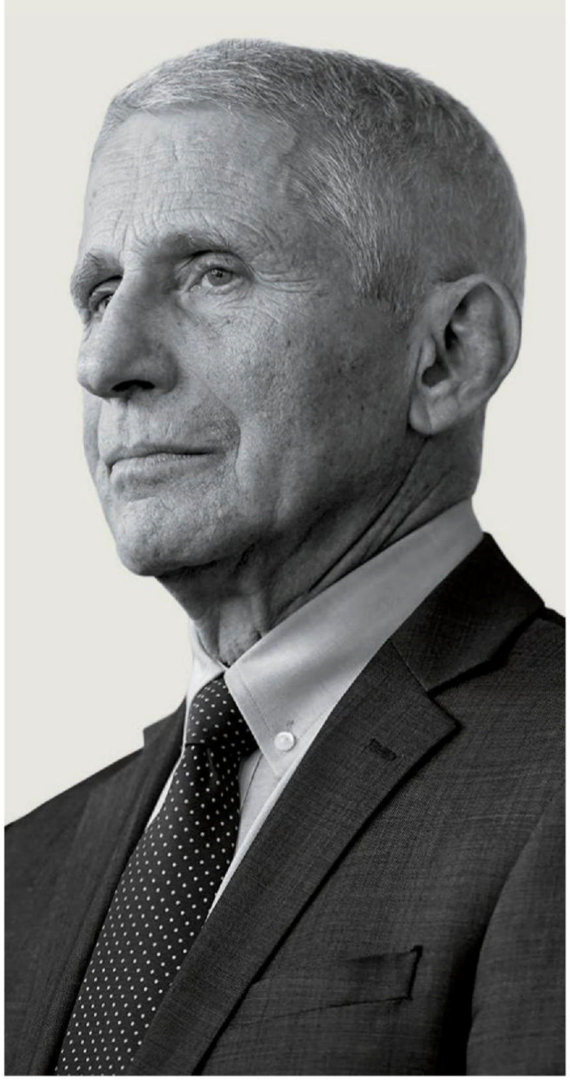
**You and your family have required personal security after threats from critics of the COVID-19 response. Did you ever question whether continuing was the right thing to do?** That never deterred me for a moment. I would never, ever let that kind of a threat from people who are cowards deter me from what I felt my mission is.

**Over the pandemic, science went in and out of favor with the public. How important is it for the public to understand and appreciate science?** We're dealing, unfortunately, with somewhat of an antiscience theme in this country, which is reflected by antivax movements and things like that. Political ideation has been very disruptive to the kind of cooperation and collaboration that you need for public health. We're seeing fundamental public-health principles being interpreted one way or the other, depending upon what your political ideology is.

**What do you predict COVID-19 will look like in coming years?** Unless we get a surprise with a way-out-there, totally different variant, we will have greater control as more people get vaccinated or wind up getting infected. We will get little blips and surges, but we're hoping that it never gets to that level where it really disrupts the social order. We may need an updated SARS-CoV-2 booster every year, similar to the flu vaccine.

## What advice would you have for your successor?

**Stick with the science. No. 1, always go with the data, with the evidence. And although you may be involved in policy, stay out of politics. Do not at all show any ideology one way or the other. Just be a pure scientist. That's what you need in the job.**



PATRICK SEMANSKY—AP

**Your career has been a series of skirmishes with a variety of pathogens. Which foe has surprised you the most?** HIV and COVID-19 are up there. HIV came on insidiously, and over 40 years [later], we're still dealing with it. I was taking care of patients for three years knowing they're dying in front of me, but not knowing what the agent is that's killing them. That is a unique and terrible experience as a physician that I will never, ever shake. [With] COVID-19, I never would've thought it was going to be prolonged like this and have so many variants. I was hoping in the beginning when it was so bad, it would be a one-off—that we'd have a big blast, and then it would come down. But that's not what happened. It's been a terrible ride ever since.

**Is there any unfinished business you left behind when you stepped down from leading NIAID?** Oh, absolutely. There is always unfinished business. We need to get a vaccine for HIV. It's going to be a very formidable scientific challenge, but we need to continue to push the envelope and try to get there. Perhaps even a cure for HIV, which I think is going be even more aspirational, but it's not out of the question. Also, there are big killers throughout the world for which we don't have highly effective vaccines yet—specifically malaria and tuberculosis. Not to mention the perpetual threat of a new emerging infection. —ALICE PARK

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